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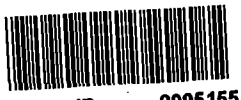

Facility Vapor Intrusion Evaluation Summary

Former Bally Engineered Structures Facility
Bally Borough, Berks County, Pennsylvania

December 2006

ARCADIS

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Appendices

1. Introduction

On behalf of Sunbeam, Inc. (Sunbeam), ARCADIS G&M, Inc. (ARCADIS) prepared this report to summarize the results of the supplemental facility soil vapor and indoor air investigation conducted at the former Bally Engineered Structures (BES) facility (the facility) between February and October of 2006. The investigation was conducted following the procedures and protocols identified the Revised Facility Vapor Intrusion Investigation Supplemental Workplan for the Bally Groundwater Contamination Superfund Site dated 25 January 2006. The investigation activities were conducted to supplement on-going facility investigations of potential vapor intrusion associated with residual impacts to soil and groundwater from historical operations.

1.1 Project Scope and Objectives

The supplemental facility investigation was aimed at further evaluation of the former BES facility to identify any possible human health risks associated with potential vapor intrusion of site-related Constituents of Potential Concern (COPCs) present in groundwater beneath the buildings. The following samples were collected in support of the supplemental facility investigations completed in 2006:

- A total of 15 indoor air quality (IAQ) samples were collected within the facility:
    - Eight samples were collected in February 2006 which are representative of the time of year when the vapor intrusion rate would be higher;
    - Five samples were collected in August 2006 which are representative of the time of year when the vapor intrusion rate would be lower; and
    - Two samples were collected in October 2006 which are confirmatory samples;
- A total of 15 subslab soil vapor (SV) samples were collected within the facility.
- A total of four ambient air samples (two samples each in March and August of 2006) were collected outside the facility.

This report presents a comparison of the IAQ sample analytical results to the USEPA Region 3 Risk-based Concentrations (RBCs) for ambient air and Pennsylvania

Department of Environment (PADEP) Act 2 Medium-Specific Concentration for Indoor Air Quality (MSC_{IAQ}) under a non-residential land use.

1.2 Report Organization

In addition to this introduction, this report consists of the following six sections:

- Section 2 presents background information and a summary of historical facility investigations;
- Section 3 presents a summary of the 2004 and 2005 soil vapor intrusion investigations;
- Section 4 presents details of the supplemental soil vapor and indoor air sampling performed in 2006 and a discussion of the laboratory analytical results including data validation;
- Section 5 presents a screening-level human health risk assessment;
- Section 6 presents the summary and conclusions, including recommendations for future activities;
- Section 7 provides the references that were used to develop this report.

2. Background

The former BES facility is located on the southwestern edge of the Borough of Bally, Berks County, Pennsylvania. **Figure 1** presents the site location. The following subsections describe historical site investigations and present a description of the site as it currently exists.

2.1 Site Investigation History

The site was formerly a manufacturing facility for the production of insulated freezer cases. Historic operations included the use of chlorinated compounds to clean and degrease molds, nozzles and small parts used in the manufacturing process. **Figure 2** depicts the facility layout.

Several phases of soil investigations have occurred at the facility. The first occurred as a series of mobilizations between 1987 and 1989. Soil sampling during this period was conducted using direct push technology at approximately 30 locations. A photoionization detection device (PID) was used to check soil sample headspace for volatile organic compounds (VOCs).

An additional phase of soil sampling was conducted in November 1994, again using direct push technology. This 1994 investigation evaluated approximately 30 additional locations by collecting soil, water, and vapor samples. Soil samples were collected from 3 to 5 different depth intervals in each boring. Water samples were collected at eleven locations and soil gas was only successfully collected at one location. Concentrations of trichloroethene (TCE), 1,1,1-trichloroethane (TCA) and 1,1-dichloroethene (DCE) in the single soil vapor sample were below the detection limits.

In 2003, the USEPA requested further site characterization activities with respect to the risks posed by the potential for vapor intrusion. In October 2003, Sunbeam submitted a workplan to the USEPA to conduct subslab vapor sampling at the facility. This work plan was approved by the USEPA and the subslab vapor sampling was completed in March 2004 under the supervision of USEPA personnel (as for all subsequent events). The results of this investigation were submitted to the USEPA in May 2004, and are reviewed in Section 3 of this report. The USEPA provided comments on the results and a workplan for additional investigation was submitted to the USEPA in March 2005. The March 2005 work plan was approved and the additional investigation was completed in March 2005. The results of this investigation were submitted to the USEPA in June 2005 and are also summarized in Section 3 of this report. On August 9, 2005, Sunbeam, ARCADIS and the USEPA met to discuss the next phase of investigation for the facility. The January 25, 2006 revised facility vapor intrusion supplemental workplan was submitted to the USEPA as a result of the August 2005 meeting. This workplan was approved by the USEPA in a letter dated January 30, 2006. This report addresses the activities conducted in accordance with the revised supplemental workplan.

2.2 Physical Setting

The facility was expanded in several stages, such that the building itself is composed of a number of segments varying in age and construction. Presently the facility is used for several different commercial and industrial purposes, ranging from fabrication and light manufacturing to office space. Some areas have been reconditioned and modified according to the needs of the present tenants. These modifications have not

been extensively documented but included the installation of raised flooring and electrical/plumbing modifications. For the purpose of this investigation, the facility has been divided into five "work spaces" or building types as described below.

2.2.1 AREA 1: Large Warehouse Area

Based upon previous reports, the southwest portion of this area was formerly used as a lagoon/surface water impoundment. Presently the large warehouse area is occupied by the following operating companies:

- Impress Industries;
- L&Z Public Storage (note: for consistency this area is still referred to as L&Z, however since the last report/investigation, the tenant changed and is currently Luciano and Sons); and
- Hunsinger Plastics (a.k.a. HPE).

The Impress Industries portion of the facility was constructed in stages from approximately 1949-1973. Impress Industries currently uses this building for warehousing and/or storage. The L&Z portion of the facility was constructed in approximately 1969. Note that as of approximately late July 2006 a new tenant occupies the space previously occupied by L&Z Public Storage. The new tenant, Luciano and Sons, produces molded sinks and bathtubs. In order to accommodate the new tenant, a portion of the wall between Impress Industries and the former L&Z Public Storage area was removed and later replaced with drywall. However, significant gaps remain where overhead pipes penetrate the wall. During the August 2006 sampling event, strong odors were noted emanating from this portion of the facility. The odors were apparently strongest in the space occupied by the new tenant (Luciano and Sons). The construction date of the Hunsinger Plastics portion of the facility is approximately 1947.

2.2.2 AREA 2: Older Warehouse Area

The occupied portion of this area of the facility is presently used for storage of safety supplies. The occupants of this portion of the facility include:

- Stauffer Manufacturing Company, Inc.; and

- Ram Motors (listed as occupant, the space remains unoccupied).

Ram Motors is a separate building of similar construction and age as Stauffer Manufacturing. The construction date of the Stauffer portion of the facility is approximately 1947.

2.2.3 AREA 3: Former Plant Area

Based on previous reports, the former degreasing area of the original Bally Engineered Structures facility was located in this area. The two businesses operating in this portion of the facility at this time are:

- Great American Weaving Corporation (GAWC); and

- Gregory Woodworking.

GAWC and Gregory Woodworking are separated by a wall, with a man door connecting the two areas. The construction date of this portion of the former BES facility is approximately 1934.

2.2.4 AREA 4: Back Building (Northwest Warehouse Building)

Based on previous reports, historic source areas have not been identified in the northwest warehouse building. The businesses currently operating in this area are:

- T&G Packaging; and

- Cutting Edge (wood products, formerly S&W Metals).

The Northwest building was constructed after 1977 and is presently used for light manufacturing. It is separated into three segments by large bay doors that are typically left open. Additionally, large bay doors to the outside of the building are often left open, allowing free exchange of indoor and outdoor air. This building is pre-fabricated metal over an asphalt/concrete slab.

2.2.5 AREA 5: Office Building

Based upon previous reports, the basement of the office building overlies an area where lagoons or pits formerly existed. The businesses currently operating in this area are:

- Condict and Co. (office);
- Hunsinger Plastics (office); and
- Curves (workout center).

This building was constructed in approximately 1970. The office areas consist of improved areas that have carpeted/tiled floors, finished wall systems, and drop ceilings. Heating and air conditioning are provided by a central forced air system and/or direct vent window/wall units. Ceiling heights are approximately 8 to 10 feet. Basement underlies about one-third of the building footprint; this is the only basement present on the site. The basement has a competent concrete floor and contains two sealed sumps that collect water and pump it to grade level.

The manufacturing and storage areas, including Areas 1, 2, 3 and 4, contain competent concrete floors, have ceiling heights ranging from approximately 15 to 25 feet, generally are not insulated, and are heated using direct vent natural gas-fired units. Ventilating fans were also noted in several areas of the building. Large bay doors are located in each of these areas to provide ready access to the building.

3. Previous Vapor Intrusion Investigations

This section presents the results of the previous vapor intrusion investigations that were conducted in 2004 and 2005 at the request of the USEPA. The results of these investigations were used to identify the location and number of samples collected in the 2006 investigation.

3.1 2004 Soil Vapor Sampling

Four subslab vapor samples (SV-1 through SV-4) were collected from locations within the former BES facility in March and April of 2004. The sample locations are shown on **Figure 3**. **Table 1** presents the COPCs analyzed as part of the investigation and the shallow soil gas screening levels, based on a $1x10^{-6}$ risk level, identified in USEPA

guidance (2002). TCE is the primary COPC at the BES facility. A summary of the results which were provided to the USEPA in a May 5, 2004 summary letter are provided below:

- Samples SV-1 and SV-2 had TCE concentrations of 130 and 140 ug/m3, respectively.
- Samples SV-3 and SV-4 had TCE concentrations of 13,000 and 6,100 ug/m3, respectively.
- The other COPCs, with the exception of vinyl chloride (VC), were detected in the samples but were at concentrations below the shallow soil gas screening levels (USEPA, 2002).
- VC was not detected in any samples.

3.2 2005 Tracer Gas Investigation

In March 2005, five additional subslab vapor samples, TG-1 through TG-5, were collected and analyzed for the COPCs. The results are presented on **Table 2**. A duplicate sample was collected at location TG-5. The sample locations are shown on **Figure 3**. A summary of the results which were provided to the USEPA in a June 30, 2005 summary letter are provided below:

- TCE was detected in all of the samples at concentrations ranging from 2 ug/m3 (TG-4, collected from the suspected former location of the dip tank) to 39,000 ug/m3 (TG-5, collected from T&G Packaging).
- 1,1,1-TCA and 1,1-DCE were also detected in several samples. 1,1-DCE was the only other COPC detected above the USEPA shallow soil-gas screening level, at 79,000 ug/m3 at TG-5. The March 2005 results were reported in a June 30, 2005 summary letter to the USEPA.

4. 2006 Supplemental Soil Vapor / Indoor Air Sampling

The 2006 supplemental sampling events include three separate events in which subslab vapor and/or indoor air samples were collected.

Nine subslab vapor samples, eight indoor air samples, two ambient air samples, and four quality assurance duplicate samples were collected in February 2006 and analyzed for the site-specific COPCs listed in **Table 1**, to evaluate the potential for vapor intrusion.

In August 2006, six subslab vapor samples, five indoor air samples, two ambient air samples, and one quality assurance duplicate sample were collected and analyzed for the site-specific COPCs listed in **Table 1**, to evaluate the potential for vapor intrusion.

Finally, in October 2006 two additional indoor air samples were collected in Area 1.

The following subsections present the sample collection methodology and the laboratory analytical results.

4.1 Sampling Location and Rationale

The following points describe the samples collected during each of the three 2006 sampling events and the basis for selecting each location. The sample locations and results are shown on **Figure 4**.

- AREA 1 - Large Warehouse Area

  <u>February 2006</u>

  Samples collected: IAQ-1/SV-4B, IAQ-4/SV-5, SV-9 and SV-10.

  TCE was previously detected in subslab samples collected beneath Area 1 at concentrations of 6,100 ug/m^3 (SV-4 in 2004) and 17,000 ug/m^3 (TG-1 in 2005) in the southwestern portion of the Impress Industries space. The middle and eastern portions of the Area 1 were not assessed in either 2004 or 2005. Therefore, the locations of SV-9 and SV-10 were selected for investigation because of their proximity to the former northern lagoon area and former small parts degreasing area, respectively.

  <u>August 2006</u>

  Samples collected: IA-A-1/SS-A-1, IA-A-2/SS-A-2, and SS-A-3.

  Three SV samples were collected to further characterize subslab COPC concentrations which were detected in the warehouse area during the February 2006 event. Corresponding IAQ samples were collected at two of the SV sample locations to characterize indoor air concentrations of COPCs and to evaluate the

potential for vapor intrusion. A corresponding IAQ sample was not collected at SS-A-3 because the room had open 5 gallon buckets, 30 gallon and 55 gallon drums as well as smaller containers possibly containing volatile liquids, which would have impacted results if a sample was collected. It is noted that strong odors, which were most prominent in the Luciana and Sons area, were noticed during this event.

October 2006

Samples collected: IA-A-1-101206, and IA-A-3-101206.

Two additional indoor air samples were collected. IA-A-1-101206 was collected to confirm the TCE concentration detected in indoor air at Impress Industries in August 2006. IA-A-3-101206 was collected within Impress Industries to further characterize indoor air concentrations in the vicinity in which the open containers were present during the August 2006 sampling event in the Luciano and Sons area.

- AREA 2 - Older Warehouse Area

February 2006

Samples collected: IAQ-2/SV-3B.

An IAQ/SV sampling pair was collected in this area to further evaluate TCE detections of 290 and 13,000 ug/m^3 in previously collected subslub vapor samples in the Stauffer portion of the facility.

- AREA 3 - Former Plant Area

February 2006

Samples collected: IAQ-7/SV-11.

The portion of the building occupied by Gregory Woodworking had not been previously assessed.

August 2006

Samples collected: IA-A-4/SS-A-4.

An IAQ/SV sampling pair was collected in this area to further evaluate the potential for TCE vapor intrusion based on a subslab vapor sample (SV-11) collected in February 2006 in which 110,000 ug/m^3 TCE was detected.

- AREA 4 - Back Building (IAQ-5/SV-7 and IAQ-6/SV-6) .

  February 2006

  Samples collected: IAQ-5/SV-7 and IAQ-6/SV-6.

  Although historic source areas have not been identified in the northwest warehouse building, subslab concentrations of COPCs above the screening levels were detected here in March of 2005. As a result, additional sampling was conducted.

  August 2006

  Samples collected: IA-A-5/SS-A-5, and IA-A-6/SS-A-6.

  These paired samples were collected in the vicinity where TCE was detected in two subslab vapor samples (TG-5 and SV-7) at a maximum concentration of 48,000 ug/m^3, but was not detected in a nearby subslab sample (SV-6).

- AREA 5 - Office Building

  February 2006

  Samples collected: IAQ-3A/IAQ-3B and SV-8.

  A subslab vapor sample collected from the basement in March 2005 had 9.6 ug/m^3 TCE. As a result, additional subslab vapor samples were collected. Indoor air samples from both the ground floor and the basement were collected in order to investigate air quality throughout the building.

4.2 Sample Collection Methodology

Samples were collected in accordance with the SOPs included in **Appendix A**. Portions of the procedures, such as checking initial and final vacuums, are dictated by laboratory procedure. In all cases the IAQ samples were collected prior to collecting the SV samples. A summary of the sample collection methods for IAQ samples and SV samples is presented below.

4.2.1 IAQ Collection Methodology

Before the initiation of the IAQ sampling, the sample location, date, time, weather, atmospheric pressure, Summa™ canister number and flow controller number were recorded on the IAQ sampling log. Initial canister vacuum was verified and noted prior to collecting samples.

To sample over an eight hour period, a flow restrictor was connected to the top of a 6-L Summa™ canister. Samples were collected at an elevation within the normal breathing zone of building occupants. This was accomplished by either setting the canister on a shelf, or attaching tubing to the flow controller and securing the opposite end several feet above the ground surface. After the eight hour collection period, the final vacuum was verified and recorded on the IAQ sampling log and canister tag. Sample logs are provided in **Appendix B**.

Following completion of sampling activities, the 6-L Summa™ canisters were appropriately packaged, sealed, and sent back to Air Toxics for analysis. Chain of custody forms were completed and included in each shipment.

4.2.2 SV Collection Methodology

The sample apparatus was assembled prior to drilling holes in the building slab. Sampling equipment included a stainless steel probe, Tedlar bag, flow controller, 6-L Summa™ canister, inert flexible tubing and associated inert unions, clamps, valves and other necessary components. Initial canister vacuum measurements were recorded prior to collecting samples.

A hammer drill was used to drill a 3/8-inch diameter hole in the slab at each location. After breaking through the slab, the drill bit was advanced approximately three inches further into the subsurface material. Cuttings produced during drilling were periodically swept away from the top of the hole. Drill cuttings were removed from the surface around the hole with a clean, damp sponge, prior to inserting the probe. The probe was allowed to "float" within the slab, sealed and secured using an inert clay material. The clay material provided an air-tight seal to the ground surface around the boring and the probe, and was also used to ensure an air-tight seal between the probe and the tubing.

After each sampling apparatus was assembled, the sampling connections were checked before purging air. Approximately 2 liters of subslab air were purged from each sample location using a sampling pump. The purge volume was selected based upon the approximate volume of the sample apparatus. The purged air was collected in Tedlar bags and evacuated outside of the facility. The purge rate was approximately 200 cubic centimeters per minute (cm^3/min). The purge time and amount were recorded for each sample.

Following purging, the connection to the pump was clamped off to prevent cross-contamination during the sample collection. Subslab vapor samples were then collected in certified clean 6-L Summa™ canisters equipped with flow regulators to limit the intake rate to approximately 200 cm^3/min. Canisters were monitored during the 30 minute period required for sample collection. Final vacuums were recorded on the sample log sheet at the end of the sampling period. Sample locations, canisters and times were recorded on sample log sheets.

Following completion of sampling activities at each location, the sampling equipment was disassembled, and clay material was removed from the concrete surface. The 6-L Summa™ canisters were appropriately packaged, sealed, and sent back to Air Toxics for analysis. Chain of custody forms were completed and included in each shipment. The boring holes were sealed using a concrete patching compound. The filler material was packed into the holes using a wooden dowel rod, to restore the hole to the original concrete slab surface grade. Photographs of the sampling locations were taken to document restoration of the concrete slab.

4.3 Analysis and Results

The results of the February, August, and October 2006 sampling events are presented in detail in this section. Results of previous sampling rounds are discussed and compared to the most recent data. Indoor air results are also compared to the ambient air RBC value, as an initial screening mechanism. More detailed risk calculations, in the subsequent section, build on these results.

4.3.1 Analysis Method

The indoor air, ambient air, and subslab vapor samples collected from the facility were submitted to Air Toxics Limited for gas chromatography/mass spectroscopy (GC/MS) analysis by modified TO-15 for the COPCs listed in **Table 1**.

Subslab vapor samples were analyzed by the low-level TO-15 method and indoor/ambient air samples were analyzed by the SIM TO-15 method, with reporting limits as noted in **Table 1**. All results were reported according to the laboratory Reporting Limit (RL). Concentrations presented in parts per billion volume (ppbv) were converted to micrograms per cubic meter using the following equation:

ug/m^3 = (ppbv x molecular weight)/24.45

where 24.45 is the molar volume of air, in liters, at 25°C and 760 torr.

4.3.2 Results

The IAQ and SV results are provided in **Table 2**. For the purpose of evaluating indoor air sample analytical results, observed concentrations were compared to:

- USEPA (2006) Region 3 Risk-based Concentrations (RBC) for ambient air under a residential land-use; and
- PADEP (2004) Act 2 Medium-Specific Concentration for Indoor Air Quality (MSC_{IAQ}) under a non-residential land use;

There are known uncertainties associated with the screening levels associated with assumptions used to calculate them. These uncertainties include:

- USEPA Region 3 RBCs for ambient air are based on residential exposures.
- The RBC for TCE was calculated using the most conservative cancer slope factor of the available range established by NCEA (2001). This is further discussed in Section 5.2 below.
- PADEP TCE MSCIAQ is based on a withdrawn toxicity value and 1E-5 cancer risk.

4.3.2.1 Area 1: Impress Industries

Four rounds of soil vapor samples (SV-4, TG-1, SV-4B, SS-A-1) and three rounds of indoor air samples (IAQ-1, IA-A-1, IA-A-1-101206) have been collected over a two year period from the southern portion of the building currently occupied by Impress Industries. Two of the indoor air samples and subslab samples were co-located (IAQ-1/SV4B and IA-A-1/SS-A-1), and all of the samples were collected in the same general location (i.e., above the former Southern Lagoon area). Soil vapor samples were also collected from the center of the building in 2006 (SV-9) and from the northern portion of the building (SV-1) in 2004.

During the soil vapor sampling, the flooring was observed to be approximately 14-inch-thick competent concrete. TCE was detected in all of the subslab soil vapor samples collected in this building; however, concentrations observed in the samples collected from the center (SV-9 at 11 ug/m^3) and northern portion of the building (SV-1 at 130

ug/m^3) were not high enough to result in unacceptable indoor air concentrations based on the attenuation factors predicted using the results of the March 2005 investigation.

In the southern portion of the building, in the vicinity of what was previously the southern lagoon, TCE was detected in all four subslab soil vapor samples at concentrations ranging from 6,100 ug/m^3 to 210,000 ug/m^3. TCE was also detected in all three IAQ samples at concentrations ranging from 40 ug/m^3 to 280 ug/m^3. These concentrations are greater than the ambient air RBC for TCE (0.016 ug/m^3). In addition, TCE concentrations in two of the three IAQ samples (180 ug/m^3 at IA-A-1 and 280 ug/m^3 in IA-A-1-101206) were greater than the PADEP non-residential MSC_{IAQ} for TCE (48 ug/m^3). 1,1,1-TCA, 1,1-DCE, and cis-1,1-dichloroethene were also detected in at least one indoor air sample, but the concentrations were less than their respective ambient air RBCs and non-residential MSC_{IAQ}s.

An additional indoor air sample (IA-A-3-101206) was collected in the northeastern portion of Impress Industries near the wall shared with the former L&Z Public Storage area (currently occupied by Luciano and Sons). This sample was collected to characterize indoor air concentrations near which the open containers were present during the August 2006 sampling event. As noted above, significant gaps in the drywall separating Impress Industries and the L&Z Storage area are present where overhead pipes penetrate the wall. In addition, odors emanating from the L&Z Storage area were apparent in this portion of Impress Industries. Therefore, the indoor air sample collected at this location is representative of indoor air within the former L&Z Storage area, and results are discussed below.

The concentration of TCE in indoor air has steadily increased in the southern portion of Impress Industries during each of the three sampling events in this area: from 40 ug/m^3 in February to 180 ug/m^3 in August to 280 ug/m^3 in October. This area is connected with the other portions of the building and the increase in TCE concentrations observed may be associated with new operations in the area of the building that was formerly occupied by L&Z Public Storage as discussed below.

4.3.2.2 Area 1: L&Z Public Storage

Two subslab soil vapor samples (SV-5, SS-A-3) and one indoor air sample (IAQ-4) was collected from this portion of the main building in February 2006. Indoor air sample IAQ-4 was co-located with the subslab soil vapor sample SV-5 in the central portion of the space. During the subslab soil vapor sampling, the flooring was observed to be approximately 14-inch-thick competent concrete.

TCE was detected in both of the subslab soil vapor samples at concentrations of 2,600 ug/m^3 in SV-5 and 3,000 ug/m^3 at SS-A-3. The concentration of TCE at IAQ-4 (48 ug/m^3) is greater than the ambient air RBC (0.016 ug/m^3); however, it is equal to the non-residential MSCIAQ (48 ug/m^3). 1,1,1-TCA and 1,1-DCE were also detected in the indoor air sample, but the concentrations were below their respective ambient air RBCs and non-residential MSC_{IAQ}s.

As noted above, IA-A-3-101206 was collected within the Impress Industries area, but results are representative of indoor area within L&Z Public Storage. The TCE concentration at IA-A-3-101206 (490 ug/m^3) is greater than both the ambient air RBC (0.016 ug/m^3) and the non-residential MSCIAQ (48 ug/m^3). 1,1,1-TCA and 1,1-DCE were also detected in the indoor air sample, but the concentrations were below their respective ambient air RBCs and non-residential MSC_{IAQ}s.

There has been a 10-fold increase of TCE concentrations in indoor air between February 2006 (48 ug/m^3) and October 2006 (490 ug/m^3). As noted in Section 2.2.1 above, L&Z Public Storage no longer occupies this area. Luciano and Sons began occupying this space in August 2006. The appearance of the strong odor and the increase in the indoor air concentrations of TCE coincides with the change of tenants and operational use of the area.

4.3.2.3 Area 1: Hunsinger Plastics

Two subslab soil vapor samples (SV-10 and SS-A-2) and one indoor air sample (IA-A-2) was collected in 2006. Indoor air sample IA-A-2 was co-located with the subslab soil vapor sample SS-A-2 in the central portion of the space. The concentration of TCE in SV-10 and SS-A-2 was 490 ug/m^3 and 350 ug/m^3, respectively. The concentration of TCE at IA-A-2 (3.8 ug/m^3) is greater than the ambient air RBC (0.016 ug/m^3); however, it is less than the non-residential MSCIAQ (48 ug/m^3). 1,1,1-TCA and 1,1-DCE were also detected in the indoor air sample, but the concentrations were less than their respective ambient air RBCs and non-residential MSC_{IAQ}s.

4.3.2.4 Area 2: Stauffer Manufacturing Company, Inc.

Three subslab vapor samples (TG-2, SV-3, SV-3B) and one indoor air sample (IAQ-2) have been collected in this portion of the main building. During the soil vapor sampling, the flooring was observed to be approximately 8-inch-thick competent concrete with wood slats overlying the concrete in some portions of the building.

The TCE concentrations observed in subslab soil vapor have oscillated over time, from 13,000 ug/m^3 in 2004, to 290 ug/m^3 in 2005, to 4,200 ug/m^3 in 2006. TCE was detected at 2.5 ug/m^3 in the indoor air sample (IAQ-2) which is greater than the ambient air RBC (0.016 ug/m^3), but less than non-residential MSCIAQ (48 ug/m^3). 1,1,1-TCA and 1,1-DCE were detected in the indoor air sample, but the concentrations were less than their respective ambient air RBCs and non-residential MSC_{IAQ}s.

4.3.2.5 Area 3: Gregory's Woodworking

Two subslab soil vapor/indoor air sample pairs (SV-11/IAQ-7 and SS-A-4/IA-A-4) were collected in 2006. During the subslab soil vapor sampling, the flooring was observed to be approximately 3-inch-thick competent concrete.

The TCE concentration observed in the subslab soil vapor collected in February 2006 was 110,000 ug/m^3, but the TCE concentration in the co-located indoor air sample (average of IAQ-7 and IAQ-7DUP) was only 0.44 ug/m^3. The subslab soil vapor concentration in SS-A-4, which was collected in October 2006 and in close proximity to SV-11, was 4.6 ug/m^3. TCE in the co-located indoor air sample (IA-A-4) was 0.35 ug/m^3. Although the TCE concentrations observed in both indoor air samples are greater than the ambient air RBC (0.016 ug/m^3), they are less than the non-residential MSC_{IAQ} (48 ug/m^3). 1,1,1-TCA and 1,1-DCE were detected in IA-A-4 (they were not detected in IAQ-7 or its duplicate), but the concentrations were less than their respective ambient air RBCs and non-residential MSC_{IAQ}s.

4.3.2.6 Area 4: Back Building (Northwest Warehouse Building)

Five subslab soil vapor samples (TG-5, SV-6, SV-7, SS-A-5, and SS-A-6) and four indoor air samples (IAQ-5, IAQ-6, IA-A-5, and IA-A-6) have been collected from the building located northwest of the main facility. TCE was detected in four of the five subslab soil vapor samples at concentrations ranging from 3.8 ug/m^3 (SS-A-6) to 48,000 ug/m^3 (SV-7). TCE was not detected in SV-6. During the subslab soil vapor sampling, the flooring was observed to be approximately 12-inch-thick competent concrete and/or asphalt.

TCE was detected in all four indoor air samples at concentrations ranging from 1 ug/m^3 (IA-A-6) to 7.7 ug/m^3 (IAQ-5), which are greater than the ambient air RBC (0.016 ug/m^3). However, the observed concentrations of TCE were less than the non-residential MSC_{IAQ} (48 ug/m^3). 1,1,1-TCA and 1,1-DCE were also detected all four

indoor air samples, but the concentrations were less than their respective ambient air RBCs and non-residential MSC_{IAQ}s.

4.3.2.7 Area 5: Office Building

Two subslab soil vapor samples (TG-3 and SV-8) and two indoor air samples (IAQ-3A and IAQ-3B) have been collected from the office building. Indoor air sample IAQ-3A and subslab soil vapor sample SV-8 were co-located in the building basement. Indoor air sample IAQ-3B and its duplicate (IAQ-3B Dup) were collected on the ground floor, above the basement sample location. During the subslab soil vapor sampling, the flooring was observed to be approximately 2-inch-thick competent concrete.

TCE concentrations in the subslab soil vapor samples were 9.6 ug/m^3 in TG-3 (collected in March 2005) and 9.1 ug/m^3 in SV-8 (collected in February 2006). TCE was detected in indoor air samples at concentrations of 1.4 ug/m^3 (IAQ-3B) and 2.9 ug/m^3 (IAQ-3A). The observed TCE concentration in indoor air is greater than the ambient air RBC (0.016 ug/m^3), but less than the non-residential MSC_{IAQ} (48 ug/m^3). 1,1,1-TCA and 1,1-DCE were also detected in at least on indoor air sample; however, the concentrations were less than their respective ambient air RBCs and non-residential MSC_{IAQ}s.

4.4 Data Validation Summary

The purpose of the data validation is to determine the reliability of the chemical analyses and the accuracy and precision of data generated by the laboratory for the recent data collected. The quality of laboratory data was evaluated by comparison to a set of quality control criteria, including precision, accuracy, and completeness.

Six analytical data packages were generated by the laboratory for the February samples, three were generated for the August samples, and one was generated for the October samples. The laboratory reports were reviewed for completeness and compliance with the deliverable requirements. Level 4 data packages were complete upon receipt and are provided electronically as **Appendix C**. Method blanks were prepared and analyzed in conjunction with the field samples to monitor potential contamination impacts during analysis. No target compounds were detected in any of the method blanks. Laboratory controls samples (LCSs) were included with each analytical batch to establish method control within the laboratory environment. All LCSs associated with project samples were acceptable. Field duplicates were collected to evaluate precision of sample collection as well as analytical method

performance. The relative percent differences of chemical concentrations observed in the primary and duplicate samples were within control limits.

Based on the data validation, the data gathered under this investigation meet the project and analytical data quality objectives. One hundred percent of the samples were analyzed as collected and as requested on the chains of custody or corrected through communication with the project chemist. The data are considered to be of known and documented quality. One hundred percent of the data generated are usable for the intended purpose as qualified during the review and verification assessment. Data validation reports are provided in **Appendix D**.

5. Screening Level Human Health Risk Assessment

This screening level human health risk assessment (HHRA) characterizes potential risks in a manner consistent with the risk assessment principles and practices established by the U.S. Environmental Protection Agency (USEPA) Risk Assessment Guidance for Superfund (RAGS) (USEPA, 1989), and subsequent USEPA guidance (USEPA, 1991; 1997; 2002; and 2003).

Potential risks and hazards were calculated using the constituent concentrations observed in indoor air samples as presented in the previous section.

5.1 Exposure Factors

With the exception of the Stauffer Manufacturing Company area, the main building is regularly frequented by site workers throughout the day storing and retrieving items. Therefore, the following site-specific exposure factors were selected:

- Inhalation rate of 1.6 m^3/hour based on moderate activity level (USEPA, 1997);
- Exposure time of 8 hours per day (professional judgment);
- Exposure frequency of 250 days per year (USEPA, 1991);
- Exposure duration of 25 years (USEPA, 1991);
- Body weight of 70 kg (USEPA, 1989); and

- Averaging time for cancer effects of 25,550 days based on a 70-year average lifespan (USEPA, 1989);

- Averaging time for non-cancer effects of 9,125 days based on a 25-year exposure duration (USEPA, 1989).

5.2 Toxicity Values

Human health risk assessment is based on two general categories of toxic effects—non-carcinogenic and carcinogenic. Constituent-specific toxicity values are used to calculate potential risks for these two types of effects. Following USEPA (2003) guidance, the constituent-specific toxicity values used to evaluate potential non-carcinogenic and carcinogenic effects were compiled following the recommended toxicity value hierarchy as follows:

- Tier 1: USEPA's Integrated Risk Information System (IRIS) (IRIS, 2006);

- Tier 2: USEPA's Provisional Peer Reviewed Toxicity Values (PPRTVs); and

- Tier 3: Other toxicity values including USEPA and non-USEPA sources of toxicity information.

Based on the above criteria, the following toxicity values were used in this screening level HHRA.

Chemical	Inhalation Cancer Slope Factor $(mg/kg/day)^{-1}$	Inhalation Reference Dose (mg/kg/day)
Trichloroethene	0.02 - 0.4	0.01
1,1,-Dichloroethene	NA	0.06
1,1-Dichloroethane	NA	0.14
cis-1,2-Dichloroethene	NA	NA
1,1,1-Trichloroethane	NA	0.63
Vinyl chloride	0.015	0.028

NA – Not available

For 1,1,1-TCA, potential non-cancer hazards were calculated using a provisional reference concentration available through NCEA, which expired in August 2005 and retired from the PPRTV in October 2005 (STSC, 2003). For TCE, potential risks were calculated using both the upper and lower end of the range of cancer slope factors for the inhalation pathway of 0.02 to 0.4 per mg/kg/day (NCEA, 2001).

5.3 Risk Characterization

The following subsections summarize the potential risks and hazards calculated for each area of the facility using the information presented above. Samples were collected in the winter, when vapor intrusion would be expected to be higher, and in the summer, when vapor intrusion would be expected to be lower. Thus, averaging samples collected during these two seasons will provide a more realistic exposure point concentration. Therefore, in areas where more than one indoor air sample was collected, the average indoor air concentration was used to calculate potential risks and hazards. Note that potential risks and hazards were not calculated for exposure to VOCs in indoor air at the Impress Industries and L&Z Public Storage areas. As discussed above, the concentration of TCE in indoor air increased significantly during 2006 and the increase appears to be related to the current operational use of the former L&Z Public Storage area.

5.3.1 Area 1: Hunsinger Plastics

Using the average constituent concentrations detected in the indoor air samples, the potential incremental cancer risk ranges from 3E-6 to 7E-5, which is within the target risk range established by USEPA (1991) of 1E-6 to 1E-4. TCE is the only chemical contributing to the potential incremental cancer risk. The non-cancer hazard index is less than one (HI=0.05), indicating that adverse non-cancer effects are unlikely.

5.3.2 Area 2: Stauffer Manufacturing Company, Inc.

Using the average chemical concentrations detected in the indoor air samples, the potential incremental cancer risk ranges from 2E-6 to 4E-5, which is within the target risk range established by USEPA (1991) of 1E-6 to 1E-4. TCE is the only chemical contributing to the potential incremental cancer risk. The non-cancer hazard index is less than one (HI=0.03), indicating that adverse non-cancer effects are unlikely.

5.3.3 Area 3: Gregory's Woodworking

Using the average chemical concentrations detected in the indoor air samples, the potential incremental cancer risk ranges from 4E-7 to 7E-6, which ranges from less than to within the target risk range established by USEPA (1991) of 1E-6 to 1E-4. TCE is the only chemical contributing to the potential incremental cancer risk. The non-cancer hazard index is less than one (HI=0.005), indicating that adverse non-cancer effects are unlikely.

5.3.4 Area 4: Back Building

5.3.4.1 T.G Packaging

Using the average chemical concentrations detected in the indoor air samples, the potential incremental cancer risk ranges from 7E-6 to 1E-4, which is within the target risk range established by USEPA (1991) of 1E-6 to 1E-4. TCE is the only chemical contributing to the potential incremental cancer risk. The non-cancer hazard index is less than one (HI=0.2), indicating that adverse non-cancer effects are unlikely.

5.3.4.2 S&W Metals

Using the average chemical concentrations detected in the indoor air samples, the potential incremental cancer risk ranges from 3E-6 to 6E-5, which is within the target risk range established by USEPA (1991) of 1E-6 to 1E-4. TCE is the only chemical contributing to the potential incremental cancer risk. The non-cancer hazard index is less than one (HI=0.1), indicating that adverse non-cancer effects are unlikely.

5.3.5 Area 5: Office Building

Using the commercial/industrial exposure factors identified above, the potential incremental cancer risk ranges from 2E-6 to 4E-5, which is within the target risk range established by USEPA (1991) of 1E-6 to 1E-4. TCE is the only chemical contributing to the potential incremental cancer risk. The non-cancer hazard index is less than one (HI=0.03), indicating that adverse non-cancer effects are unlikely.

6. Summary and Conclusions

The supplemental investigation performed by ARCADIS in 2006 evaluated the potential impacts to indoor air quality from vapor intrusion. A total of 15 subslab soil

vapor and indoor air quality samples were collected between February and October 2006. TCE and several other COPCs, were identified the indoor air samples in all areas of the facility. During the August and October sampling events, strong odors were being emitted from the former L&Z Storage area and could be identified in the Impress industries area. The indoor air samples collected in August and October 2006 reflected an increase in the TCE concentrations. The suspected source of the increase in TCE is the current operations at the former L&Z Storage area. The assessment of potential risks associated with the increase TCE concentrations associated with the current operations of the new tenant is beyond the scope of this investigation.

The potential cancer risk and non-cancer hazard associated with exposure via inhalation of volatile COPCs in the subsurface migrating to indoor air at all areas of the facility, except Impress Industries and the former L&Z Storage area, were calculated. Results indicate that concentrations of COPCs present in the subsurface do not pose an unacceptable risk to site workers via inhalation of indoor air.

7. References

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U.S. Environmental Protection Agency (USEPA). 2006. Region 3 Risk-based Concentration Table. October.

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Table 1. Summary of Site Specific COPCs
Former BES Facility Bally, Pennsylvania

		Air Toxics Reporting Limits		
Constituent of Potential Concern (COPC)	**CAS No.**	**Low-Level Analysis (ug/m^3)**	**SIM analysis (ug/m^3)**	**Shallow Soil Gas Screening Level (USEPA, 2002) (ug/m^3)**
1,1-Dichloroethane	75-01-4	0.1	0.02	5000
1,1-Dichloroethene	75-34-3	0.1	0.01	2000
cis-1,2-Dichloroethene	75-35-4	0.1	0.02	350
1,1,1-Trichloroethane	156-59-2	0.1	0.02	22,000
Trichloroethene	71-55-6	0.1	0.02	0.22
Vinyl Chloride	79-01-6	0.1	0.01	2.8

Notes:
Laboratory reporting limits may not be achievable under all conditions.

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Table 2. Summary of Facility Subslab Soil Vapor and Indoor Air Results
Former BES Facility Bally, Pennsylvania

Location	Sample ID	Sample Date	Medium	Trichloroethene	1,1,-Dichloroethene	1,1-Dichloroethane	cis-1,2-Dichloroethene	1,1,1-Trichloroethane	Vinyl chloride
Screening Levels	USEPA Region 3 Ambient Air RBC Residential			0.016	220	510	37	1000	0.072
	PADEP Indoor Air MSC_{IAQ} Nonresidential			48	580	510	100	6,100	9.5
Area 1: Impress Industries	SV-1	4/7/2004	SV	130	500	1.1	0.89	260	<0.23
	SV-4	4/7/2004	SV	6,100	<22	<70	<22	<67	<14
	TG-1	3/23/2005	SV	17,000	34 J	<35	<35	<48	<22
	SV-4B	2/4/2006	SV	210,000	<590	<600	<590	<810	<380
	IAQ-1	2/4/2006	IA	40	3.6	<0.13	<0.13	5.4	<0.041
	SV-9	2/28/2006	SV	11	<0.55	<0.56	<0.55	0.78	<0.36
	SS-A-1	8/30/2006	SV	14000	<34	<35	49	69	<22
	SS-A-1 (dup)	8/30/2006	SV	9300	<26	<27	29	54	<17
	IA-A-1	8/28/2006	IA	180	62	<0.18	0.18	100	<0.056
	IA-A-1-101206	10/12/2006	IA	280	43	<0.65	<0.64	44	<0.41
	IA-A-3-101206	10/12/2006	IA	490	150	<1.2	<1.2	170	<0.75
Area 1: Hunsinger Plastics	SV-10	2/28/2006	SV	490	<4.1	9.0	740	370	<2.6
	SS-A-2	8/30/2006	SV	350	6.0	2.5	200	100	<0.70
	IA-A-2	8/28/2006	IA	3.8	1.3	<0.13	<0.12	1.6	<0.040
Area 1: L&Z Public Storage	SV-5	2/28/2006	SV	2,600	580	<6.5	<6.3	22	<4.0
	SV-5Dup	2/28/2006	SV	2,600	590	<6.2	<6.0	23	<3.9
	IAQ-4	2/24/2006	IA	48	7.4	<0.13	<0.13	8.4	<0.041
	SS-A-3	8/30/2006	SV	3000	240	<11	<11	21	<7.0
Area 4: T.G. Packaging	TG-5	3/23/2005	SV	39,000	79,000	<120	<35	<48	<22
	SV-7	2/27/2006	SV	48,000	100,000	<300	<300	51,000	<190
	IAQ-5	2/24/2006	IA	7.7	37	<0.18	<0.18	13	<0.057
	SS-A-5	8/29/2006	SV	47,000	79000	<230	<220	52000	<140
	IA-A-5	8/28/2006	IA	7.4	19	<0.12	<0.12	9.6	<0.038
Area 4: S&W Metals	SV-6	2/27/2006	SV	<0.76	<0.56	<0.57	<0.56	<0.77	<0.36
	IAQ-6	2/24/2006	IA	5.1	53	<0.14	<0.14	19	<0.046
	IAQ-6Dup	2/24/2006	IA	5.2	52	<0.14	<0.14	20	<0.46
	SS-A-6	8/29/2006	SV	3.8	0.84	<0.56	<0.55	5.1	<0.36
	IA-A-6	8/28/2006	IA	1	3.3	<0.13	<0.13	2.3	<0.041
Area 5: Office Area	TG-3	3/24/2005	SV	9.6	<0.063	<0.13	<0.14	0.95	<0.04
	SV-8	2/28/2006	SV	9.1	<0.58	<0.59	<0.58	<0.80	<0.37
	IAQ-3A	2/24/2006	IA (Basement)	2.9	0.065	<0.13	<0.12	0.38	<0.043
	IAQ-3B	2/24/2006	IA (1st Floor)	1.4	<0.067	<0.14	<0.13	0.38	<0.043
	IAQ-3B Dup	2/24/2006	IA (1st Floor)	1.4	0.07	<0.14	<0.13	0.4	<0.043
Former Test Coolers	SV-2	4/7/2004	SV	140	180	2.1	3.6	560	<0.14

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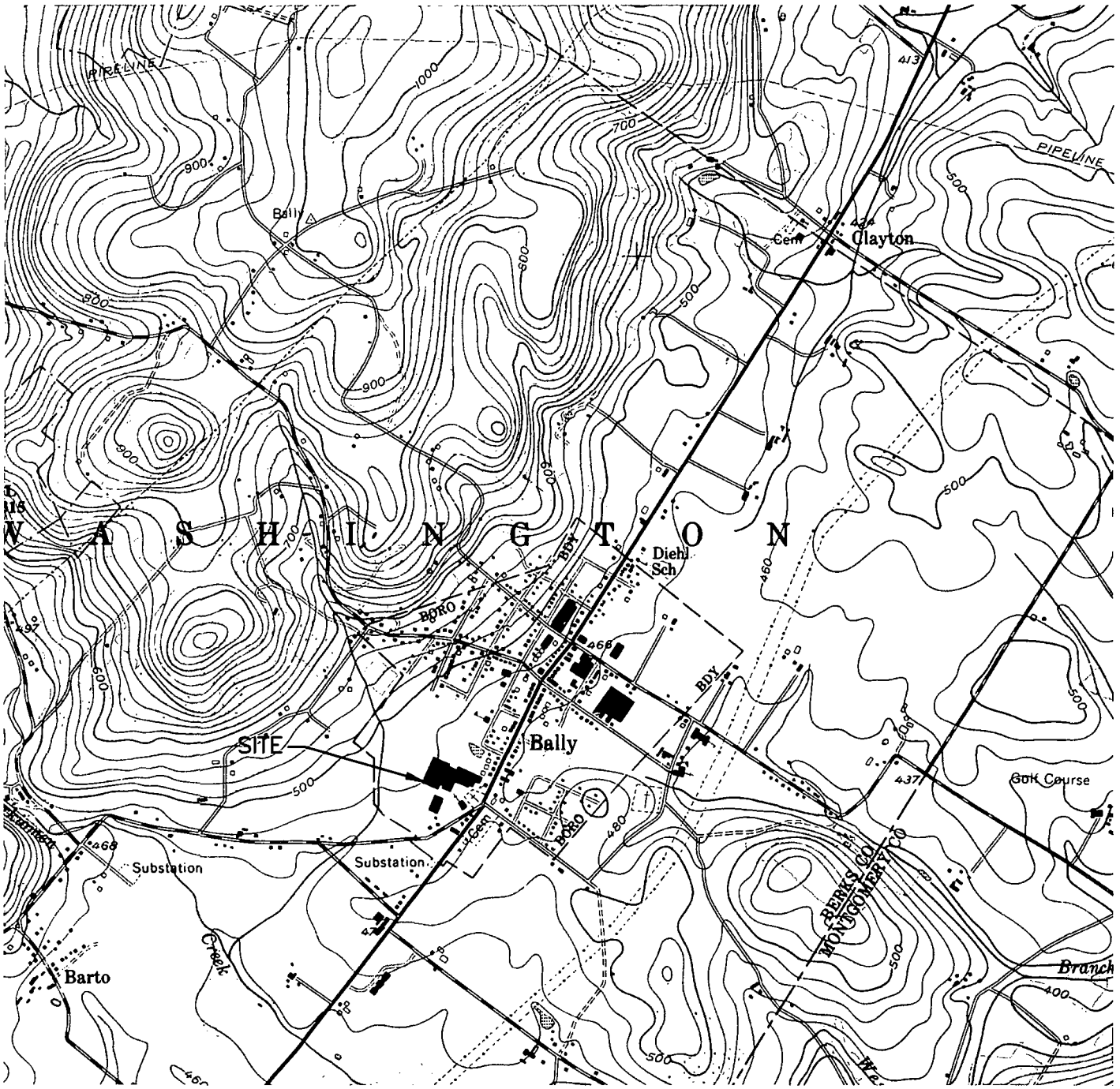
Table 2. Summary of Facility Subslab Soil Vapor and Indoor Air Results
Former BES Facility Bally, Pennsylvania

Location	Sample ID	Sample Date	Medium	Trichloroethene	1,1,-Dichloroethene	1,1-Dichloroethane	cis-1,2-Dichloroethene	1,1,1-Trichloroethane	Vinyl chloride
Screening Levels	USEPA Region 3 Ambient Air RBC Residential			0.016	220	510	37	1000	0.072
	PADEP Indoor Air MSC_{IAQ} Nonresidential			48	580	510	100	6,100	9.5
Area 2: Stauffer Mfg. Co	SV-3	4/7/2004	SV	13,000	<53	<54	<53	<73	<34
	TG-2	3/22/2005	SV	290	<0.72	<0.74	<0.72	<1.0	<0.47
	SV-3B	2/28/2006	SV	4,200	<9.5	<9.7	<9.5	<13	<6.1
	IAQ-2	2/24/2006	IA	2.5	0.3	<0.14	<0.13	0.43	<0.043
Area 3: Gregory's Woodworking	SV-11	3/1/2006	SV	110,000	38,000	<300	<290	27,000	<190
	IAQ-7	2/24/2006	IA	0.43	<0.082	<0.17	<0.16	<0.22	<0.053
	IAQ-7DUP	2/24/2006	IA	0.45	<0.082	<0.17	<0.16	<0.22	<0.053
	SS-A-4	8/29/2006	SV	4.6	<0.56	<0.57	<0.56	<0.77	<0.36
	IA-A-4	8/28/2006	IA	0.35	0.07	<0.13	<0.12	0.3	<0.040
Area 3: Great American Weaving Corporation	TG-4	3/22/2005	SV	2.0	<0.071	<0.14	<0.14	0.29	<0.046
Ambient Air Samples	Upwind	2/24/2006	AA	<0.16	<0.06	<0.12	<0.12	<0.16	<0.039
	Downwind	2/24/2006	AA	<0.17	<0.064	<0.13	<0.13	<0.18	<0.041
	AA-East	8/28/2006	AA	0.27	0.12	<0.13	<0.13	0.33	<0.042
	AA-West	8/28/2006	AA	0.19	0.075	<0.13	<0.13	0.27	<0.041

Notes
All results are presented in ug/m^3
J - Results are estimated.
SV - Subslab soil vapor
IA - Indoor air
AA - Ambient air
NA - Not available



SOURCE: USGS 7.5 MIN. TOPOGRAPHICAL QUADRANGLES EAST GREENVILLE, PENNSYLVANIA 1967, PHOTOREVISED 1985.

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SUNBEAM PRODUCTS INC.
FORMER BALLY ENGINEERED STRUCTURES

SITE LOCATION MAP

BALLY, PA

Project Number	NP000597.002
Drawing Date	6 FEBRUARY, 2006
Figure	1
	AR100793

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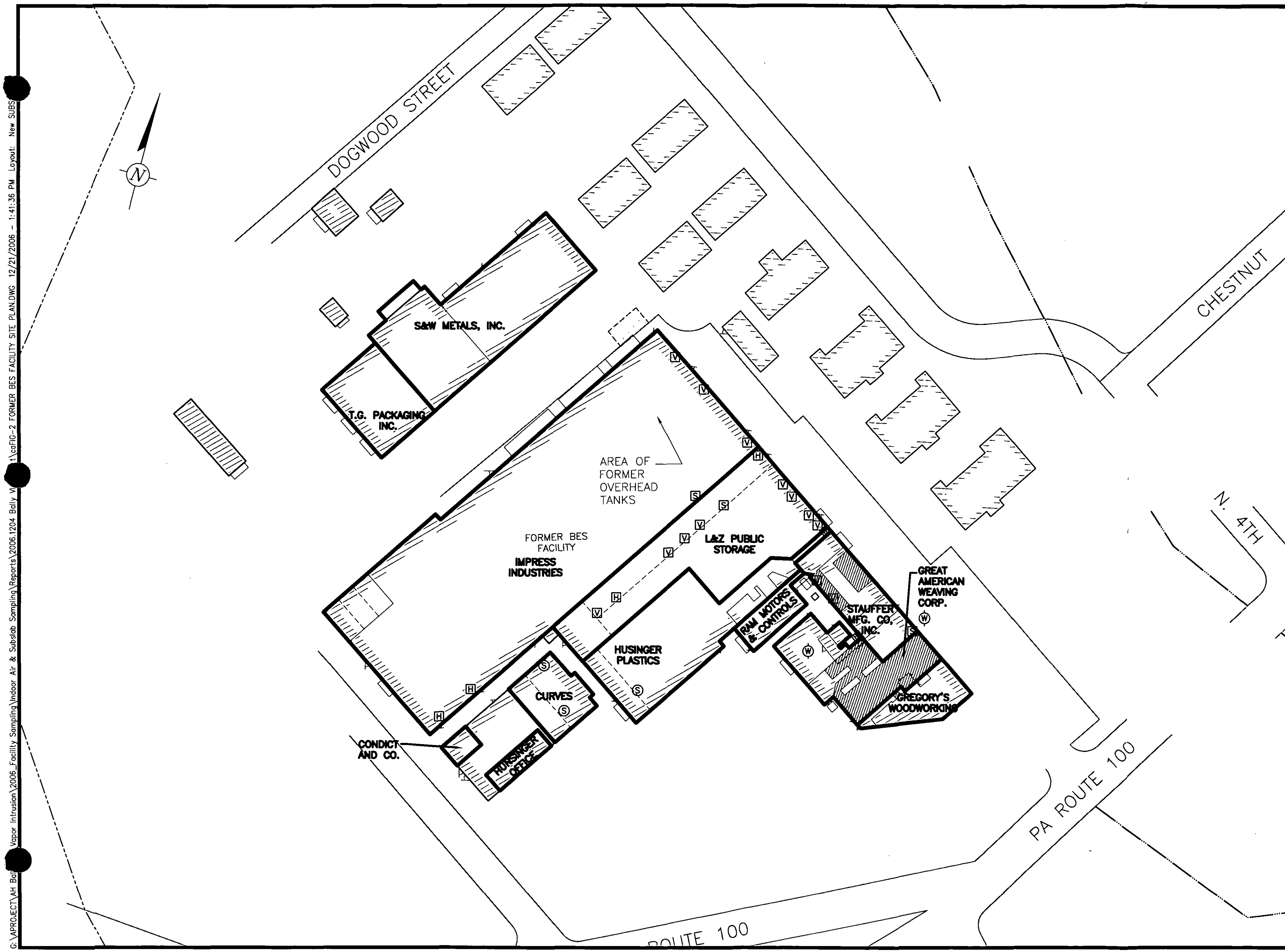

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LEGEND:

STREAM
V VENT OR VENT FAN
H OVERHEAD HEATING UNIT
S SPRINKLER LINE THROUGH FLOOR
W WATER LINE
WOOD FLOOR UNDERLAIN BY CONCRETE
STORM DRAIN
S SUMP

NO.	DATE	REVISION DESCRIPTION	BY / CKD

SUNBEAM PRODUCTS, INC.
BALLY GROUNDWATER SITE

BALLY BOROUGH
BERKS COUNTY, PENNSYLVANIA

FORMER BES FACILITY SITE PLAN

ARCADIS
6 Terry Drive
Suite 300, Newtown, Pa 18940
Tel: 267/685-1800 Fax: 267/685-1801

0 120
SCALE: 1"=120'

PROJECT MANAGER M. BEDARD	DEPARTMENT MANAGER M. BEDARD
LEAD DESIGN PROF. F. NATITUS	CHECKED F. NATITUS
DRAWN M. WASILEWSKI	DATE 3/21/06
PROJECT NUMBER NP000597.006	DRAWING NUMBER 2

AR100794

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LEGEND:

- TG-3 ⊠ PROPOSED TRACER GAS SAMPLE LOCATION
- SV-1 ⊠ SUBSLAB VAPOR SAMPLE LOCATION (MARCH/APRIL 2004)
- STREAM
- [V] VENT OR VENT FAN
- [H] OVERHEAD HEATING UNIT
- [S] SPRINKLER LINE THROUGH FLOOR
- (W) WATER LINE
- WOOD FLOOR UNDERLAIN BY CONCRETE
- STORM DRAIN
- (S) SUMP

NOTE:

ALL CONCENTRATIONS IN ug/m³

NO.	DATE	REVISION DESCRIPTION	BY CKD

DOGWOOD STREET

FORMER BES FACILITY

FORMER TEST COOLERS

FIRE PROTECTION VAULT

TOWNHOME CLUSTER (TYP.)

AREA OF FORMER OVERHEAD TANKS

OFFICE AREA BASEMENT

SEE INSET A

APPROXIMATE LIMIT OF ASPHALT

N. 4TH

ROUTE 100

SV-2	4/7/2004
Trichloroethene	140
1,1-Dichloroethene	180
1,1-Dichloroethane	2.1
cis-1,2-Dichloroethene	3.6
1,1,1-Trichloroethane	560
Vinyl Chloride	< 0.14

SV-1	4/7/2004
Trichloroethene	130
1,1-Dichloroethene	500
1,1-Dichloroethane	1.1
cis-1,2-Dichloroethene	0.89
1,1,1-Trichloroethane	260
Vinyl Chloride	< 0.23

TG-5	3/23/05
Trichloroethene	39,000
1,1-Dichloroethene	79,000
1,1-Dichloroethane	<120
cis-1,2-Dichloroethene	<35
1,1,1-Trichloroethane	<48
Vinyl Chloride	<22

TG-3	3/24/05
Trichloroethene	9.6
1,1-Dichloroethene	<0.063
1,1-Dichloroethane	<0.13
cis-1,2-Dichloroethene	<0.14
1,1,1-Trichloroethane	0.95
Vinyl Chloride	<0.04

TG-1	3/23/05
Trichloroethene	17,000
1,1-Dichloroethene	34 J
1,1-Dichloroethane	<35
cis-1,2-Dichloroethene	<35
1,1,1-Trichloroethane	<48
Vinyl Chloride	<22

SV-4	4/7/2004
Trichloroethene	6,100
1,1-Dichloroethene	< 22
1,1-Dichloroethane	< 70
cis-1,2-Dichloroethene	< 22
1,1,1-Trichloroethane	< 67
Vinyl Chloride	< 14

TG-4	3/22/05
Trichloroethene	2
1,1-Dichloroethene	<0.071
1,1-Dichloroethane	<0.14
cis-1,2-Dichloroethene	<0.14
1,1,1-Trichloroethane	0.29
Vinyl Chloride	<0.046

SV-3	4/7/2004
Trichloroethene	13,000
1,1-Dichloroethene	< 53
1,1-Dichloroethane	< 54
cis-1,2-Dichloroethene	< 53
1,1,1-Trichloroethane	< 73
Vinyl Chloride	< 34

TG-2	3/22/05
Trichloroethene	290
1,1-Dichloroethene	<0.72
1,1-Dichloroethane	<0.74
cis-1,2-Dichloroethene	<0.72
1,1,1-Trichloroethane	<1.0
Vinyl Chloride	<0.47

INSET A

0 40
SCALE: 1"=40'

0 120
SCALE: 1"=120'

SUNBEAM PRODUCTS, INC.
BALLY GROUNDWATER SITE

BALLY BOROUGH
BERKS COUNTY, PENNSYLVANIA

FORMER BES FACILITY
SUBSLAB SAMPLE RESULTS
2004 AND 2005

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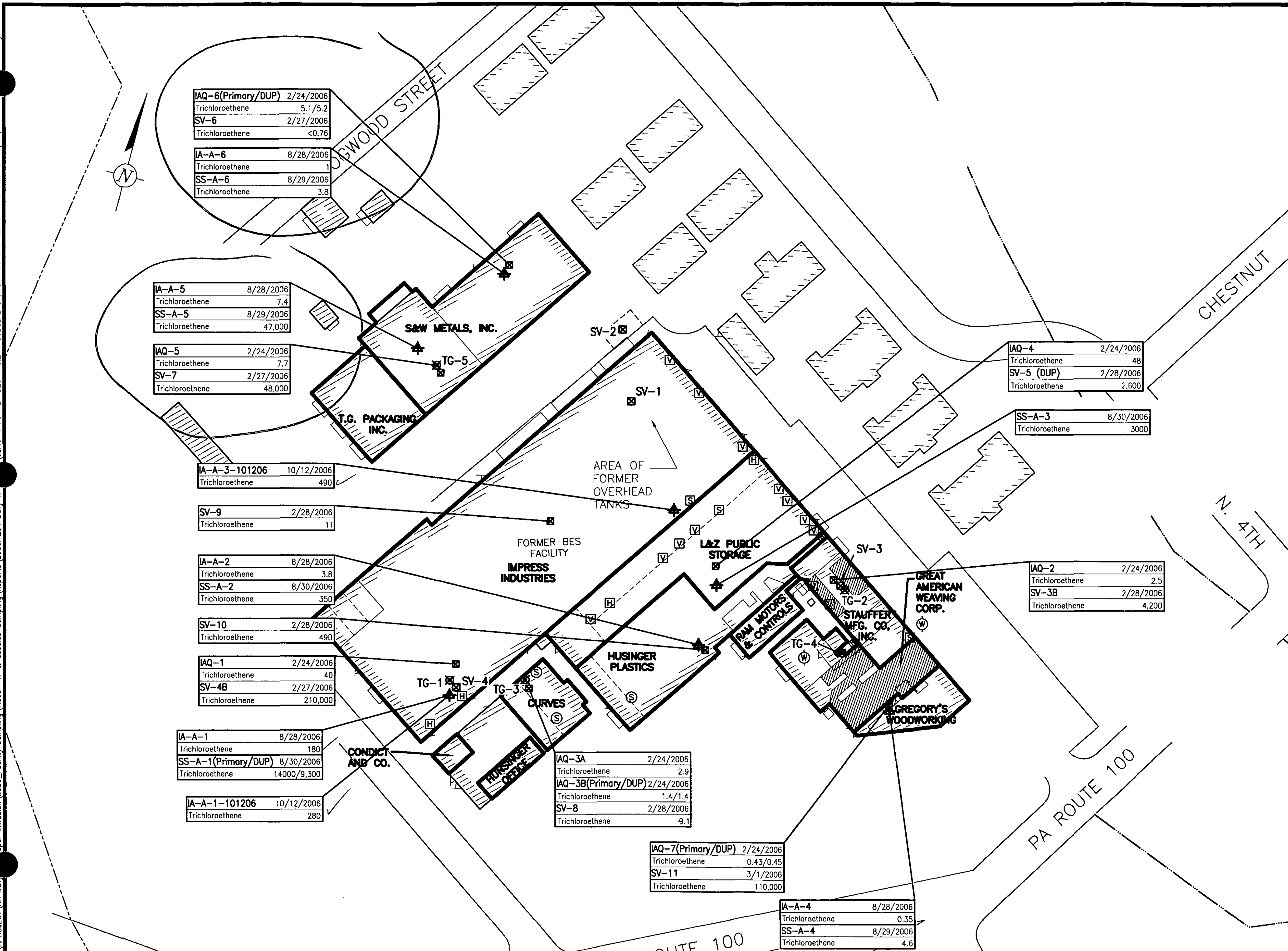
PROJECT MANAGER	DEPARTMENT MANAGER
M. BEDARD	M. BEDARD
LEAD DESIGN PROF.	CHECKED
F. NATITUS	F. NATITUS
DRAWN	DATE
M. WASILEWSKI	9
PROJECT NUMBER	DRAWING NUMBER
NP000597.006 100795	3

G:\APROJECT\AH Bally Vapor Intrusion\2006_Facility Sampling\Indoor Air & Substab Sampling\Reports\2006.1204 Bally Vapor Intrusion\cadFIG-3 SUBSLAB VAPOR SUBSLAB SAMPLE LOCATIONS 2004_2005.DWG 12/21/2006 - 1:41:45 Layout: SUBSLAB

G:\APROJECT\AH Bally\Vapor Intrusion\2006_Facility Sampling\Indoor Air & Subslab Sampling\Reports\2006.1204 Bally VI\caFIG-4 FORMER BES FACILITY SUBSLAB SAMPLE RESULTS FEBRUARY 2006.DWG 12/28/2006 - PM Layout: New



LEGEND:

SS-A-2 INDOOR AIR QUALITY / SUBSLAB VAPOR SAMPLING LOCATION (AUGUST 2006)

IAQ-2 SV-7 INDOOR AIR QUALITY / SUBSLAB VAPOR SAMPLING LOCATION (FEBRUARY 2006)

TG-3 SUBSLAB VAPOR AND TRACER GAS SAMPLE LOCATION (MARCH 2005)

SV-1 SUBSLAB VAPOR SAMPLE LOCATION (MARCH/APRIL 2004)

STREAM

V VENT OR VENT FAN

H OVERHEAD HEATING UNIT

S SPRINKLER LINE THROUGH FLOOR

W WATER LINE

WOOD FLOOR UNDERLAIN BY CONCRETE

STORM DRAIN

S SUMP

NOTE:

ALL CONCENTRATIONS IN ug/m

SUNBEAM PRODUCTS, INC.
BALLY GROUNDWATER SITE

BALLY BOROUGH
BERKS COUNTY, PENNSYLVANIA

FORMER BES FACILITY
SUBSLAB VAPOR AND INDOOR SAMPLING RESULTS
(2006)

ARCADIS

6 Terry Drive
Suite 300, Newtown, Pa 18940
Tel: 267/885-1800 Fax: 267/885-1801

0 120
SCALE: 1"=120'

PROJECT MANAGER M. BEDARD	DEPARTMENT MANAGER M. BEDARD
LEAD DESIGN PROF. F. NATITUS	CHECKED C. SHARPE
DRAWN M. WASILEWSKI	DATE 12/1/06
PROJECT NUMBER NP000597.006	DRAWING NUMBER 4

AR100796

Appendix A

Standard Operating Procedures

STANDARD OPERATING PROCEDURE NO. 1

Chain-of-Custody Procedures

Scope: This procedure describes the Chain-of-Custody used to establish the necessary documentation to track sample possession from time of collection to analysis.

Purpose: The purpose of this procedure is to develop and maintain good quality control in field operations and uniformity between field personnel involved in the documentation of samples for shipment.

Equipment: Chain-of-Custody Record and Chain-of-Custody Seals

Procedure:

Prior to leaving the sampling site and/or prior to sealing sample cartons or coolers for shipment, the Chain-of-Custody Record must be completed.

Information to be provided on this form includes:

1. Project number and Location
2. Laboratory Identification
3. Sampling Party
4. Sample Identification (sample number)
5. Sample Bottle/Container Description
6. Date of Sampling
7. Signature of Persons including Chain-of-Custody and Dates and Times of Possession
8. Delivery Method (attach shipping bill)

Once the container is ready for shipment, Chain-of-Custody Seals shall be applied to the cooler in such a manner as to monitor tampering.

Upon change of possession, the record is to be signed and dated by both parties. The white (original) copy accompanies the shipment, the field sampler retains the yellow copy.

STANDARD OPERATING PROCEDURE NO. 2

Air/Vapor Sample Packaging and Shipment

Scope: This procedure describes acceptable methodology for packaging and shipping air/vapor samples to an analytical laboratory for chemical analyses.

Purpose: The purpose of this procedure is to provide a uniform and documented means of securely transporting environmental samples to the laboratory so as to preserve the integrity and quality of the sample(s).

Equipment: Packaging tape, mailing labels, chain-of-custody forms, chain-of-custody seals, and shipping forms.

Procedures:

1. Assemble all sample containers from the completed sampling event.
2. Locate, identify and record type of canister for each sample identification number on a chain-of-custody form.
3. Determine the total container count and cross check sample count.
4. Check to make sure canisters were labeled properly.
5. Place some shock absorbing material in the bottom of the package to prevent direct contact of the container with the bottom of the package.
6. Arrange canister to prevent movement.
7. Place the top copy of the chain-of-custody in package.
8. Close lid and place custody seals over the joint and cover with clear tape.
9. Properly complete and address a shipping form and affix to the lid of the package. Samples should be delivered to the laboratory by the next morning.
10. Deliver to an appropriate overnight courier or the laboratory.
11. File a copy of the chain-of-custody form and the shipping form in the project file.
12. Call laboratory the next morning to confirm arrival of samples.

STANDARD OPERATING PROCEDURE NO. 3

Subslab Soil Vapor Sampling

Scope: This procedure describes the methodology to be used for the collection of subslab soil vapor samples.

Purpose: The purpose of this procedure is to ensure good quality control in field operations, uniformity between different field personnel and to allow traceability of possible cause of errors in analytical results.

Equipment: Hammer Drill; 3/8 in. bit; tedlar bags; peristaltic pump; ¼ inch ID Masterflex tubing; concrete sealant; 6-L Summa™ canister; regulator; barometer

Procedure:

Probe Installation

1. Prior to subslab vapor probe installation, identify and mark utilities coming into the building from the outside (e.g., gas, water, sewer, refrigerant, and electrical lines) and utilities beneath (inside) the building.

2. Core hole through cement slab.

3. Drill an approximately 3/8 inch boring approximately 3 inches into subslab soil.

4. Remove the drill and cover the hole with inert material until the probe is ready to be inserted.

5. Install sampling apparatus (i.e., commercially available soil vapor point and tubing) so that it "floats" in the slab avoiding obstruction with subslab material.

6. Seal boring by creating an air-tight seal around sample tubing at ground surface using an inert material.

7. Check sampling apparatus connections. Note that barbed union fittings should be used for tubing connections. If there is a problem with obtaining fittings, the connections may be sealed using an inert material.

Soil Vapor Collection

8. Record location, date, time, weather, atmospheric pressure, approximate depth of subslab vapor samples, on Soil Vapor Sample Log.

9. Connect Tygon sample tubing to ¼ inch ID Masterflex tubing and a peristaltic pump and 1-L Tedlar bag. Use of a peristaltic pump will ensure that sampled air does not circulate through a pump causing potential cross contamination and leakage.

10. Purge vapor probe by filling two Tedlar bags or routing purge air to the exterior of the building with tubing. A purge volume of 2 L was chosen based on the assumption of a 2-inch sampling interval and an affected sample diameter of 0.61 m (2 ft). Purge rate should be approximately 200 cubic centimeters per minute (i.e., 5 minutes per Tedlar bag).

11. Record purge date and time on Soil Vapor Sample Log

12. Collect subslab vapor samples in evacuated 100 percent sim-certified 6-L Summa™ polished canisters equipped with regulators to control intake rate. Sampling rate should be approximately 200 cubic centimeters per minute. Check vacuum in canisters prior to sampling. At least 4-L of air will be collected in the canister for analysis (i.e. 20 minute collection time at 200 cubic centimeters per minute). Following sample collection, check and record final vacuum in canister. Submit canisters to a commercial laboratory for analysis. Record Sample ID, Date, Time and analysis requested on the Sample Label.

13. Record sample time on Soil Vapor Sample Log.

14. Remove sampling apparatus and seal the borehole annulus with an appropriate sealant to the original surface grade (*note duplicate sample collection method below).*

Duplicate Soil Vapor Sample Collection

1. Note duplicate sample location on Soil Vapor Sample Log.

2. Duplicate samples will be collected using duplicate tees and flow restrictors per laboratory guidance Check vacuum in canisters prior to sampling. At least 4-L of air will be collected in the canister for analysis (i.e. 20 minute collection time at 200 cubic centimeters per minute). Following sample collection, check and record final vacuum in canister. Record Duplicate Sample ID, Date, Time and analysis requested on the Sample Label.

3. Submit canisters to a commercial laboratory for analysis.

STANDARD OPERATING PROCEDURE NO. 5

Indoor Air Quality Sampling

Scope: This procedure describes the methodology to be used for the collection of Indoor Air Quality (IAQ) samples.

Purpose: The purpose of this procedure is to ensure good quality control in field operations, uniformity between different field personnel and to allow traceability of possible cause of errors in analytical results.

Equipment: ¼ inch ID Masterflex tubing; 6-L Summa™ canister; regulator/pressure gauge; barometer, IAQ Sample Log, ARCADIS Form IAQ – 01

Procedure:

Indoor Air Quality Sample Collection

Before Sampling

1. Record location, date, time, weather, atmospheric pressure, canister number, flow controller number, on IAQ Sample Log.

2. Verify gauge operation. Gauge on flow controller should read "zero" before use.

3. Verify initial vacuum of canister per laboratory guidance.

    a. Make sure canister valve is closed.

    b. Remove brass cap from top of canister.

    c. Attach gauge/flow controller to canister.

    d. Attach brass cap to influent side of gauge/flow controller tee fitting.

    e. Open and close valve quickly.

    f. Read vacuum on gauge (Initial vacuum of the canister should be greater than 25 in. of Hg. If it is not call AirToxics client services at 1-800-985-5955 and arrange for replacement). Record gauge reading on "Initial Vacuum" section on chain of custody, IAQ Sample log, and on canister tag.

During Sampling

4. Install flow controller, supplied by AirToxics, to top of pressure gauge.

5. Install approximately 3 – 5 ft. tubing to end of flow controller to assure sample is collected at breathing level.

6. Open valve ½ turn.

7. Record time of sample collection start in IAQ Sample log.

8. Check and record gauge pressure in IAQ Sample log after 4 hours of sampling time have elapsed. The sample will be an integrated 8 hour sample. (Note that the flow controllers are set by the laboratory such that some vacuum will remain following the set collection period.)

After Sampling

9. Verify and record final vacuum on IAQ sampling log and on canister tag.

10. Close valve on canister by hand tightening knob.

11. Disassemble pressure gauge and flow controller. Replace brass cap on canister.

12. Complete canister sample tag.

13. Return canisters and sampling apparatus in boxes provided by laboratory.

14. Fill out chain of custody (COC) and place lab. copy of COC in box.

15. Seal box and affix custody seal.

16. Record canister to lab via appropriate shipping method, taking into account canister holding times (14 – 30 days).

Duplicate Indoor Air Quality Sample Collection

1. If a duplicate sample has been collected, note duplicate sample location on IAQ Sample Log.

2. Duplicate samples will be collected using duplicate tees and flow restrictors per laboratory guidance. Check vacuum in canisters prior to sampling. At least 4-L of air will be collected in the canister for analysis. Following sample collection, check and record final vacuum in canister. Record Duplicate Sample ID, Date, Time and analysis requested on the Sample Label.

3. Submit canisters to a commercial laboratory for analysis as described above.

STANDARD OPERATING PROCEDURE NO. 5

Indoor Air Quality Sampling

Scope: This procedure describes the methodology to be used for the collection of Indoor Air Quality (IAQ) samples.

Purpose: The purpose of this procedure is to ensure good quality control in field operations, uniformity between different field personnel and to allow traceability of possible cause of errors in analytical results.

Equipment: ¼ inch ID Masterflex tubing; 6-L Summa™ canister; regulator/pressure gauge; barometer, IAQ Sample Log, ARCADIS Form IAQ - 01

Procedure:

Indoor Air Quality Sample Collection

Before Sampling

1. Record location, date, time, weather, atmospheric pressure, canister number, flow controller number, on IAQ Sample Log.

2. Verify gauge operation. Gauge on flow controller should read "zero" before use.

3. Verify initial vacuum of canister per laboratory guidance.

    a. Make sure canister valve is closed.

    b. Remove brass cap from top of canister.

    c. Attach gauge/flow controller to canister.

    d. Attach brass cap to influent side of gauge/flow controller tee fitting.

    e. Open and close valve quickly.

    f. Read vacuum on gauge (Initial vacuum of the canister should be greater than 25 in. of Hg. If it is not call AirToxics client services at 1-800-985-5955 and arrange for replacement). Record gauge reading on "Initial Vacuum" section on chain of custody, IAQ Sample log, and on canister tag.

During Sampling

4. Install flow controller, supplied by AirToxics, to top of pressure gauge.

5. Install approximately 3 – 5 ft. tubing to end of flow controller to assure sample is collected at breathing level.

6. Open valve ½ turn.

7. Record time of sample collection start in IAQ Sample log.

8. Return to collect the sample 8 hours after deploying canister. The sample will be an integrated 8 hour sample. (Note that the flow controllers are set by the laboratory such that some vacuum will remain following the set collection period.)

After Sampling

9. Verify and record final vacuum on IAQ sampling log and on canister tag.

10. Close valve on canister by hand tightening knob.

11. Disassemble pressure gauge and flow controller. Replace brass cap on canister.

12. Complete canister sample tag.

13. Return canisters and sampling apparatus in boxes provided by laboratory.

14. Fill out chain of custody (COC) and place lab. copy of COC in box.

15. Seal box and affix custody seal.

16. Record canister to lab via appropriate shipping method, taking into account canister holding times (14 – 30 days).

Duplicate Indoor Air Quality Sample Collection

1. If a duplicate sample has been collected, note duplicate sample location on IAQ Sample Log.

2. Duplicate samples will be collected using duplicate tees and flow restrictors per laboratory guidance. Check vacuum in canisters prior to sampling. At least 4-L of air will be collected in the canister for analysis. Following sample collection, check and record final vacuum in canister. Record Duplicate Sample ID, Date, Time and analysis requested on the Sample Label.

3. Submit canisters to a commercial laboratory for analysis as described above.

Appendix B

Sample Logs

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INDOOR AIR QUALITY SAMPLE LOG

Sample ID	BAL-IAQ-01-022406	Project/No.	NP000597.0006.00007
Date	2/24/06	Sampling Personnel	DBK
Time	1030	Duplicate ID	—
Weather	Partly cloudy, wind gusts up to 40 mph; 9.5°C	Barometric Pressure	29.56 in Hg
		Corresponding Subslab ID	

DESCRIPTION OF SAMPLE LOCATION:

Location	Att Bally Facility	Cannister Type	Summa
Facility	Former BES	Cannister No.	11882
Floor Type	Concrete	Flow Regulator No.	11882
Cracks?		Pre Sample Vacuum	-31 in Hg
Room Dimensions		Begin Sample Time	1030
Tie Meas.1		Mid Sample Time	1310
Tie Meas. 2		Mid Sample Vacuum	-19.5
Tie Meas. 3		End Sample Time	7:28
Intake Height		End Sample Vacuum	-6.0 "Hg

FIELD PARAMETERS:

Sample Method: Ambient air - 6L Summa canister

Sample Description:

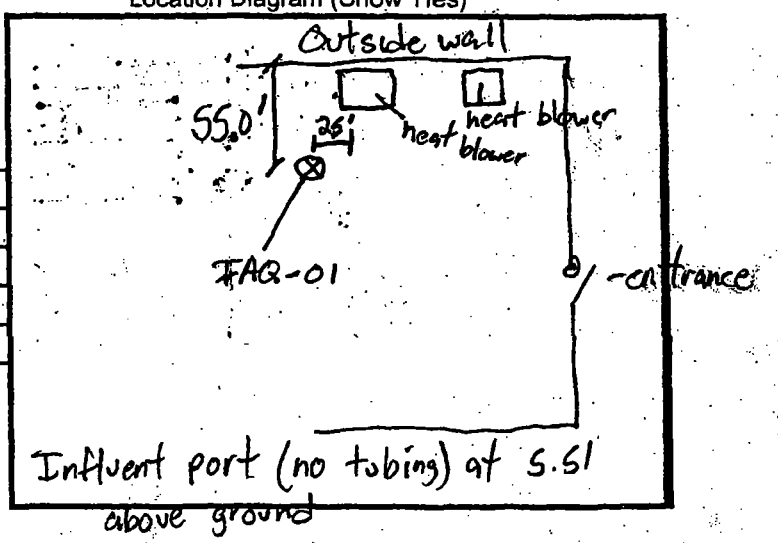
PID: —

FID: —

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



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ARCADIS Form IA-01

Page 1 of 1

See backside for resampling

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INDOOR AIR QUALITY SAMPLE LOG

Sample ID	BAL-IAQ-02-022406	Project/No.	NP000597.0006.00007
Date	2/24/2006	Sampling Personnel	D. K.
Time	850	Duplicate ID	—
Weather	Sunny, Windy - gusts @ 40 mph	Barometric Pressure	29.47 in. Hg
		Corresponding Subslab ID	

DESCRIPTION OF SAMPLE LOCATION:

Location	Stauffer Blvd	Cannister Type	SUMMA
Facility	Former BES	Cannister No.	35242
Floor Type	Concrete	Flow Regulator No.	35242
Cracks?	Y	Pre Sample Vacuum	-30
Room Dimensions		Begin Sample Time	8:50 AM
Tie Meas.1		~~Mid Sample Time~~	1150
Tie Meas. 2		~~Mid Sample Vacuum~~	-28.5
Tie Meas. 3		End Sample Time	705 PM
Intake Height		End Sample Vacuum	-12.0 "Hg

FIELD PARAMETERS:

Sample Method: Indoor Air per WP

Sample Description:

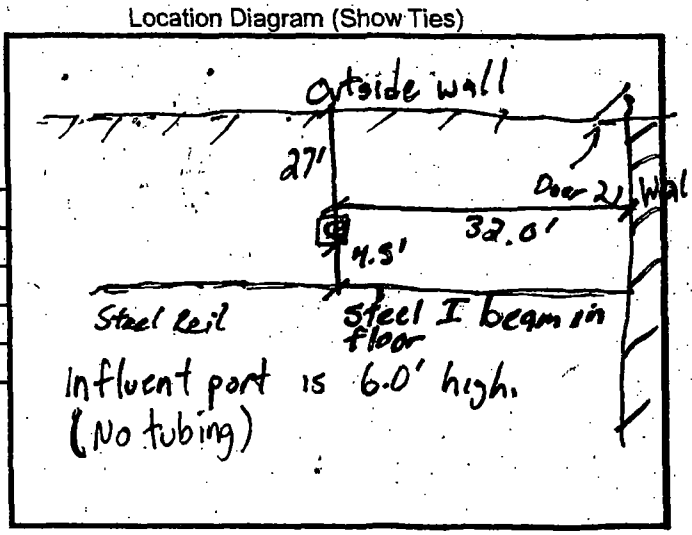
PID:

FID:

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



Note: The pressure reading bounced back -25 quickly. Then ~~the~~ it was tightened up to secure the sealing. The reading moved to -15 slowly starting 8:30 AM. @ 9:10 AM. the reading is -4 in. Hg. @ 9:50

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INDOOR AIR QUALITY SAMPLE LOG

Sample ID	BAL-IAQ-03A-022406	Project/No.	NP000597.0006.00007
Date	2/24/06	Sampling Personnel	DBK
Time	921	Duplicate ID	
Weather	Sunny, gusts ≤ 40 mph	Barometric Pressure	29.47 in Hg
		Corresponding Subslab ID	

DESCRIPTION OF SAMPLE LOCATION:

Location		Cannister Type	SUMMA
Facility	Former BES	Cannister No.	~~[illegible]~~ 3407
Floor Type	Linoleum	Flow Regulator No.	3407
Cracks?		Pre Sample Vacuum	-30
Room Dimensions		Begin Sample Time	9:21
Tie Meas.1	See diagram	Mid Sample Time	1240
Tie Meas. 2		Mid Sample Vacuum	-19.5 in Hg
Tie Meas. 3		End Sample Time	620
Intake Height		End Sample Vacuum	-6.0 in Hg

FIELD PARAMETERS:

Sample Method: Indor air per W.P.

Sample Description:

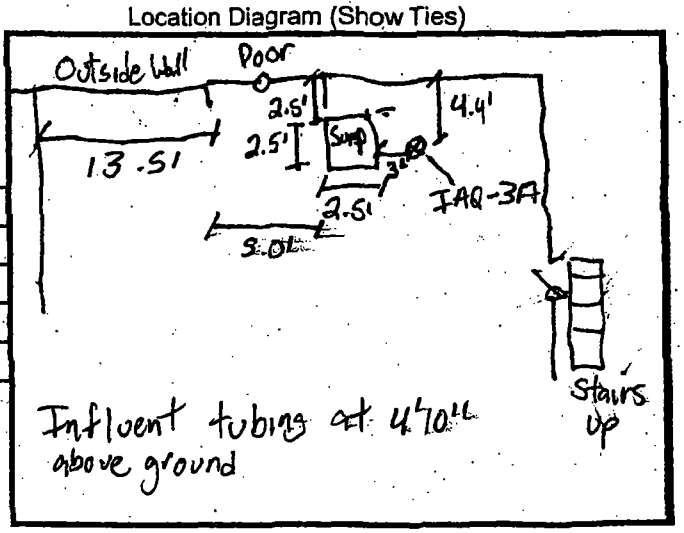
PID:

FID:

CONTAINER DESCRIPTION:

	Container	Analysis
	6L Summa	TO-15
Total		

Location Diagram (Show Ties)



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INDOOR AIR QUALITY SAMPLE LOG

Sample ID	IAQ-3B-DUP 022406	Project/No.	NP000597.0006.00007
Date	2/24/06	Sampling Personnel	DBK
Time	923	Duplicate ID	
Weather	Sunny, windy - gusts ≤ 40 mph	Barometric Pressure	29.65 in Hg
		Corresponding Subslab ID	

DESCRIPTION OF SAMPLE LOCATION:

Location		Cannister Type	SUMM A
Facility	Former BES	Cannister No.	11006
Floor Type	Concrete	Flow Regulator No.	11006
Cracks?		Pre Sample Vacuum	-30.0 in Hg
Room Dimensions		Begin Sample Time	923
Tie Meas.1	See diagram	Mid Sample Time	1251
Tie Meas. 2		Mid Sample Vacuum	-20.0 in Hg
Tie Meas. 3		End Sample Time	-8.0
Intake Height		End Sample Vacuum	630 PM

FIELD PARAMETERS:

Sample Method: Indoor Air per WP.

Sample Description:

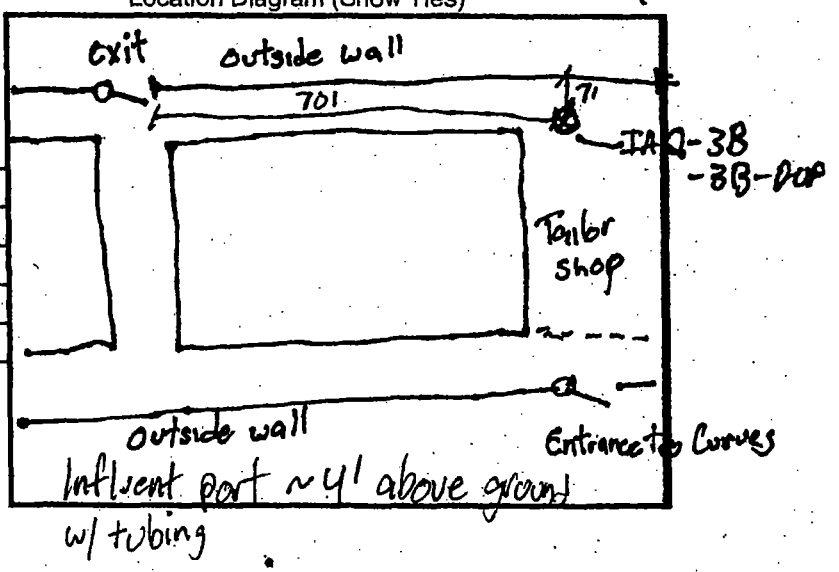
PID:

FID:

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



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INDOOR AIR QUALITY SAMPLE LOG

Sample ID	BAL IAQ-03B-022406	Project/No.	NP000597.0006.00007
Date	2/24/2006	Sampling Personnel	DBK
Time	953	Duplicate ID	BAL-IAQ-03B-DUP-022406
Weather	Sunny, Windy - gusts ≤ 40mph	Barometric Pressure	29.65 in Hg
		Corresponding Subslab ID	

DESCRIPTION OF SAMPLE LOCATION:

Location		Cannister Type	Summa
Facility	Former BES	Cannister No.	34423
Floor Type	~~Linoleum~~ Concrete	Flow Regulator No.	~~H0086~~ 34423
Cracks?		Pre Sample Vacuum	-27.5 inHg
Room Dimensions		Begin Sample Time	953
Tie Meas.1	See diagram	Mid Sample Time	1251
Tie Meas. 2		Mid Sample Vacuum	-17.0
Tie Meas. 3		End Sample Time	630 PM
Intake Height		End Sample Vacuum	-4.5

FIELD PARAMETERS:

Sample Method: Indoor air per W.P.

Sample Description:

PID:

FID:

CONTAINER DESCRIPTION:

	Container	Analysis
	6L Summa	TO-15
Total		

Location Diagram (Show Ties)

See IAQ-3B-DUP

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INDOOR AIR QUALITY SAMPLE LOG

Sample ID	BAL-IAQ-01-022406	Project/No.	NP000597.0006.00007
Date	2/24/2006	Sampling Personnel	K.M
Time	910	Duplicate ID	
Weather	Sunny, windy up to 40mph	Barometric Pressure	29.47 in. Hg
		Corresponding Subslab ID	

DESCRIPTION OF SAMPLE LOCATION:

Location	AH Bally, Bally PA	Cannister Type	Summa
Facility	Former BES	Cannister No.	11885
Floor Type	Concrete	Flow Regulator No.	11885
Cracks?		Pre Sample Vacuum	-30
Room Dimensions		Begin Sample Time	910
Tie Meas.1	See diagram	Mid Sample Time	1210
Tie Meas. 2		Mid Sample Vacuum	-17.0
Tie Meas. 3		End Sample Time	~~1210~~ 521
Intake Height		End Sample Vacuum	-6.0

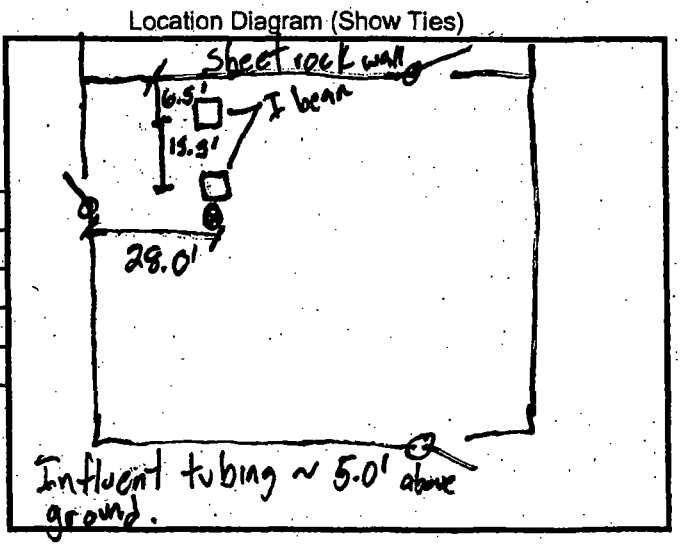
FIELD PARAMETERS:

Sample Method	Per WP
Sample Description	Indoor Air
PID	
FID	

CONTAINER DESCRIPTION:

	Container	Analysis
	6L Summa	TO-15
Total		

Location Diagram (Show Ties)



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ARCADIS G&M

INDOOR AIR QUALITY SAMPLE LOG

Sample ID	BAL-IAQ05-022406	Project/No.	NP000597.0006.00007
Date	2/24/06	Sampling Personnel	
Time	935	Duplicate ID	
Weather	Sunny, Windy - gusts ≤ 40 mph	Barometric Pressure	29.47 in. Hg
		Corresponding Subslab ID	

DESCRIPTION OF SAMPLE LOCATION:

Location	S&W Metal Product back room	Cannister Type	SUMMA
Facility	Former BES	Cannister No.	1384
Floor Type	Concrete	Flow Regulator No.	1384
Cracks?		Pre Sample Vacuum	-30
Room Dimensions		Begin Sample Time	~~9:35~~ 9:35 AM
Tie Meas.1		Mid Sample Time	1330
Tie Meas. 2		Mid Sample Vacuum	-23.5
Tie Meas. 3		End Sample Time	734
Intake Height		End Sample Vacuum	-13.5

FIELD PARAMETERS:

Sample Method: Indoor Air per WP

Sample Description:

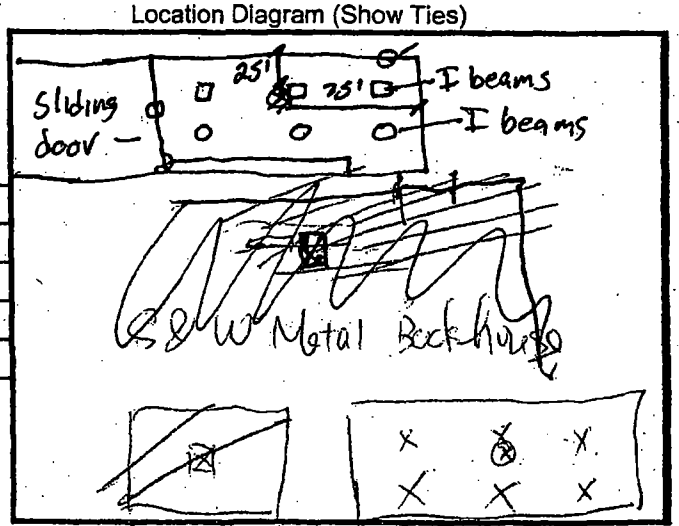
PID:

FID:

CONTAINER DESCRIPTION:

	Container	Analysis
	6L Summa	TO-15
Total		

Location Diagram (Show Ties)



Influent tubing ~ 6.0' above grand.

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INDOOR AIR QUALITY SAMPLE LOG

Sample ID	BAL-IAQ-06-02406	Project/No.	NP000597.0006.00007
Date	2/24/06	Sampling Personnel	DBK
Time	925	Duplicate ID	—
Weather	Sunny, Windy - gusts ≤ 40 mph	Barometric Pressure	29.47 in Hg
		Corresponding Subslab ID	

DESCRIPTION OF SAMPLE LOCATION:

Location	S/W Metal Product Facility	Cannister Type	SUMMA
Facility	Former BES	Cannister No.	~~34364~~ 34364
Floor Type	Concrete	Flow Regulator No.	~~34364~~ 34364
Cracks?		Pre Sample Vacuum	-30
Room Dimensions		Begin Sample Time	9:25AM
Tie Meas.1	See diagram	Mid Sample Time	1325
Tie Meas. 2		Mid Sample Vacuum	-18.5
Tie Meas. 3		End Sample Time	1801
Intake Height		End Sample Vacuum	-8.5

FIELD PARAMETERS:

Sample Method: Indoor Air per WP

Sample Description:

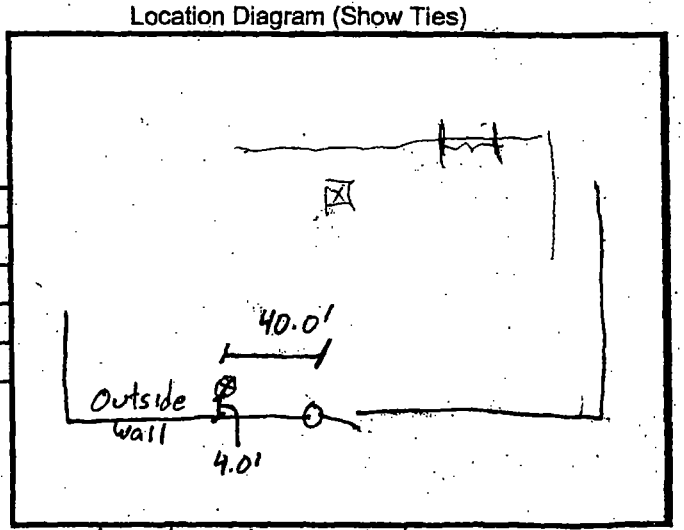
PID

FID

CONTAINER DESCRIPTION:

	Container	Analysis
	6L Summa	TO-15
Total		

Location Diagram (Show Ties)



Influent port ~4.0' above ground. (No tubing)

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INDOOR AIR QUALITY SAMPLE LOG

Sample ID	BAL-IAQ-07-022406	Project/No.	NP000597.0006.00007
Date	2/24/2006	Sampling Personnel	K.M
Time	1010	Duplicate ID	
Weather	Sunny, Windy, gusts ≤ 40mph	Barometric Pressure	29.47 in. Hg
		Corresponding Subslab ID	

DESCRIPTION OF SAMPLE LOCATION:

Location	Gregory wood working	Cannister Type	SUMMA
Facility	Former BES	Cannister No.	1486
Floor Type	Linoleum	Flow Regulator No.	1486
Cracks?		Pre Sample Vacuum	-30
Room Dimensions		Begin Sample Time	1010
Tie Meas.1	See diagram	Mid Sample Time	1220
Tie Meas. 2		Mid Sample Vacuum	-25.0
Tie Meas. 3		End Sample Time	0650
Intake Height		End Sample Vacuum	-11.5

FIELD PARAMETERS:

Sample Method: Indoor. air per W.P.

Sample Description:

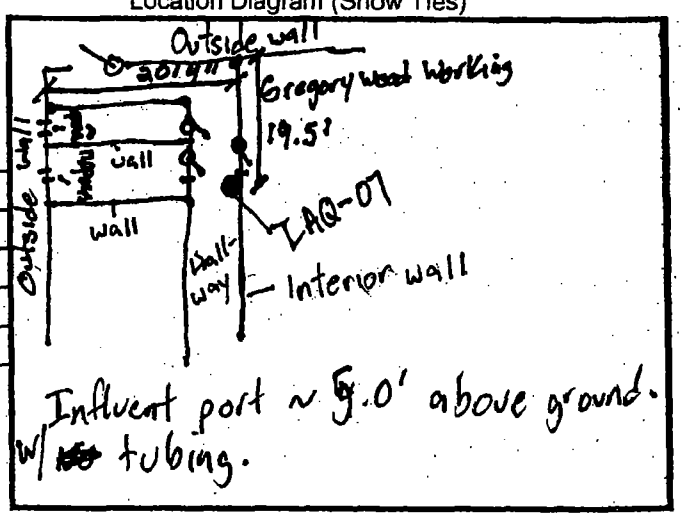
PID:

FID:

CONTAINER DESCRIPTION:

	Container 6L Summa	Analysis TO-15
Total		

Location Diagram (Show Ties)



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INDOOR AIR QUALITY SAMPLE LOG

Sample ID	BAL - IAQ - UW-022406	Project/No.	NP000597.0006.00007
Date	2/24/06	Sampling Personnel	DBK
Time	955	Duplicate ID	
Weather	Mostly sunny, 35°F, gusty winds up to 45 mph	Barometric Pressure	29.62 in Hg
		Corresponding Subslab ID	

DESCRIPTION OF SAMPLE LOCATION:

Location	Outside facility - upwind	Cannister Type	SUMMA
Facility	Former BES	Cannister No.	94304
Floor Type	—	Flow Regulator No.	94304
Cracks?		Pre Sample Vacuum	-30 in Hg
Room Dimensions		Begin Sample Time	09:55
Tie Meas.1	Corner of Facility	Mid Sample Time	1352
Tie Meas. 2		Mid Sample Vacuum	-17.5
Tie Meas. 3		End Sample Time	7:00 PM
Intake Height		End Sample Vacuum	-7.0

FIELD PARAMETERS:

Sample Method: Per WP

Sample Description: Upwind

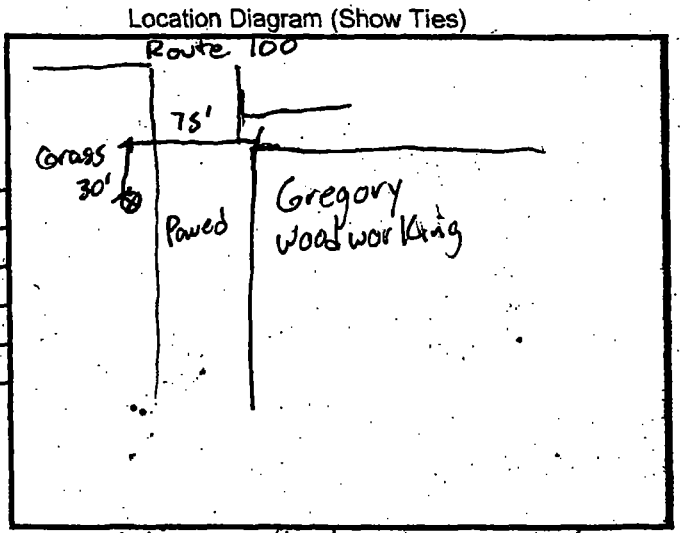
PID

FID

CONTAINER DESCRIPTION:

	Container 6L Summa	Analysis TO-15
Total		

Location Diagram (Show Ties)



No tubing. Intluent port ~ 2.0' above ground.

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INDOOR AIR QUALITY SAMPLE LOG

Sample ID	BAL-IAQ-DW-022406	Project/No.	NP000597.0006.00007
Date	2/24/06	Sampling Personnel	DBK
Time	10:05	Duplicate ID	—
Weather	Sunny, 35°F, gusty winds	Barometric Pressure	29.65 " Hg
		Corresponding Subslab ID	—

DESCRIPTION OF SAMPLE LOCATION:

Location		Cannister Type	SUMMA
Facility	Former BES	Cannister No.	34749
Floor Type	Grass	Flow Regulator No.	34749
Cracks?		Pre Sample Vacuum	-30 in Hg
Room Dimensions		Begin Sample Time	10:05
Tie Meas.1	See diagram	Mid Sample Time	1343
Tie Meas. 2		Mid Sample Vacuum	-18.0
Tie Meas. 3		End Sample Time	644 PM
Intake Height		End Sample Vacuum	-7.5

FIELD PARAMETERS:

Sample Method

Sample Description

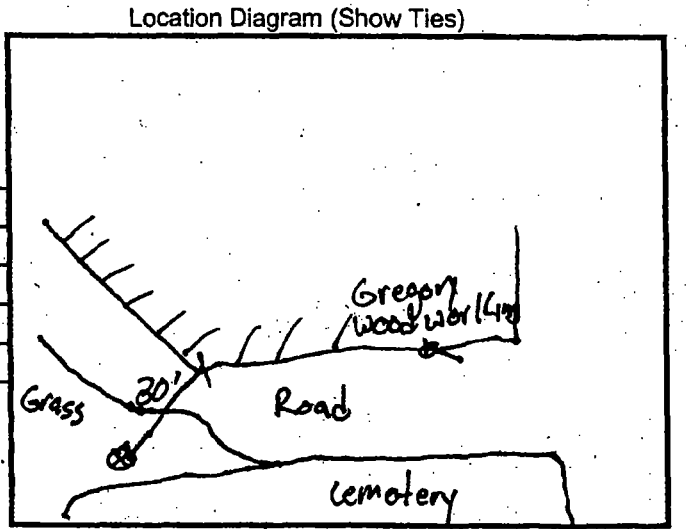
PID

FID

CONTAINER DESCRIPTION:

	Container	Analysis
	6L Summa	TO-15
Total		

Location Diagram (Show Ties)



No tubing, Inflvent port ~ 2.0' above ground.

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SOIL VAPOR SAMPLE LOG

Sample ID	BAL-SV-009-030106	Project/No.	NP000597.0006.
Date	3.1.06	Sampling Personnel	RDM + DBK
Time	0931	Duplicate ID	n/a
Weather	clear, low 30s	Barometric Pressure	29.29" Hg

DESCRIPTION OF SAMPLE LOCATION:

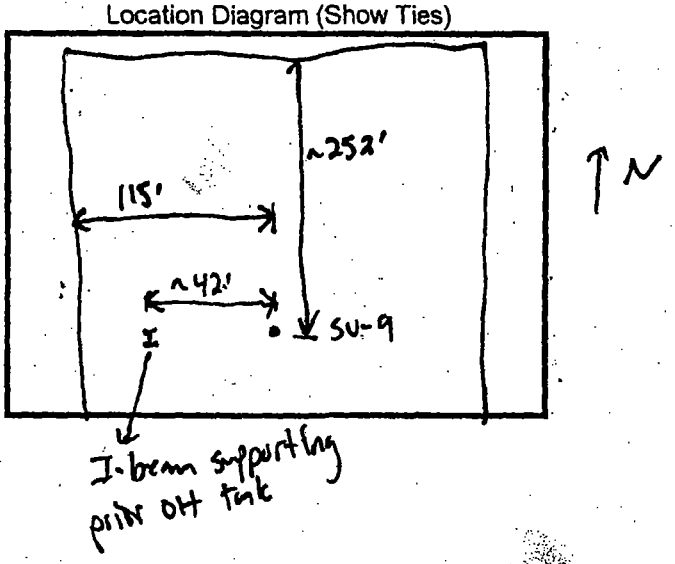
Location	S+G	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	23882
Floor Type	Concrete	Flow Regulator No.	23882
Cracks?		Pre Sample Vacuum	-28.6" Hg
Room Dimensions		Sample Depth (ft)	7"
Tie Meas.1	42' to I beam w/ OH tank	Purge Time	0917-0929
Tie Meas. 2	115' to E wall	Purge Rate	200 mL/min
Tie Meas. 3	252' to N wall	Purge Volume	2.5 L
		Begin Sample Time	0931
FIELD PARAMETERS:		End Sample Time	1011
		End Sample Vacuum	-4.0" Hg
Sample Method	purge 2.5 L through scintillation cell then attach Summa		
Sample Description	Sub Slab Vapor – slab ~ 16" thick		

PID	116 ppm
FID	n/a

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
0.5L Scin. cell	Radon
TOTAL: 2	

Location Diagram (Show Ties)



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SOIL VAPOR SAMPLE LOG

Sample ID	BAL-SV-010-022806	Project/No.	NP000597.0006.
Date	2.28.06	Sampling Personnel	RDM + DBC
Time	1326	Duplicate ID	n/a
Weather	mostly clear, low 30s	Barometric Pressure	29.35" Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	Hunsinger Plastics (HPE)	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	9544
Floor Type	Concrete	Flow Regulator No.	9544
Cracks?		Pre Sample Vacuum	-30.0" Hg
Room Dimensions		Sample Depth (ft)	Drilled ~8", hanging probe ~3' above bottom
Tie Meas.1	22' to door wall	Purge Time	1341-1353
Tie Meas. 2	6.5' to I-beam	Purge Rate	200 mL/min
Tie Meas. 3	48' to N wall new overhead door	Purge Volume	2.5L
		Begin Sample Time	1355
FIELD PARAMETERS:		End Sample Time	1431
		End Sample Vacuum	-4.5" Hg

Sample Method: 6L Summa, sub slab, TO-15 analysis

Sample Description: Sub Slab Vapor

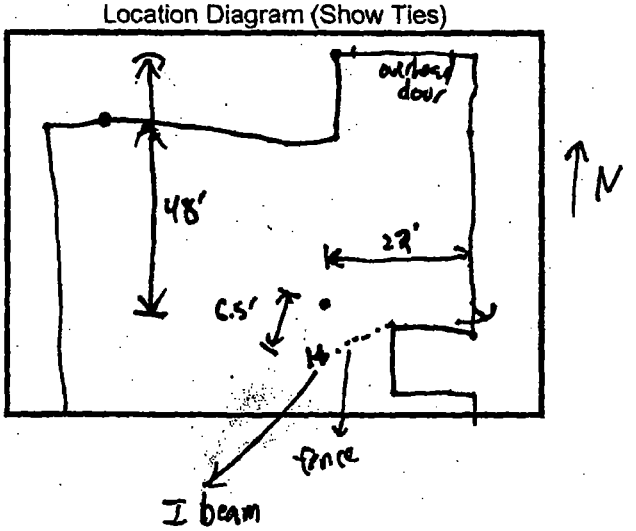
PID: 5.2 ppm; background: 0.5 ppm

FID: n/a

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
0.13L scin. cell	Radon
TOTAL: 2	

Location Diagram (Show Ties)



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SOIL VAPOR SAMPLE LOG

Sample ID	BAL-SV-03B-022806	Project/No.	NP000597.0006.
Date	2.28.06	Sampling Personnel	ROM + DBK
Time	0929	Duplicate ID	n/a
Weather	mostly clear, mid 20s	Barometric Pressure	29.35" Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	Stauffer Manuf. Space	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	403
Floor Type	Concrete w/ areas of hardwood	Flow Regulator No.	403
Cracks?	widely segmented	Pre Sample Vacuum	-29.6" Hg
Room Dimensions	~59' x 79'	Sample Depth (ft)	8" below surface
Tie Meas.1	29.9"	Purge Time	0917 - 0929
Tie Meas. 2	~74.5'	Purge Rate	200 mL/min
Tie Meas. 3	28' 11"	Purge Volume	2.5 L
		Begin Sample Time	~~0917~~ 0929
		End Sample Time	1005
		End Sample Vacuum	-3.0" Hg

FIELD PARAMETERS:

Sample Method: Purge 2.5 L through scintillation cell, then apply Summa

Sample Description: Sub Slab Vapor - Slab ~11" thick
Indoor Air Quality (IAQ-4)

PID: 3.7 ppm

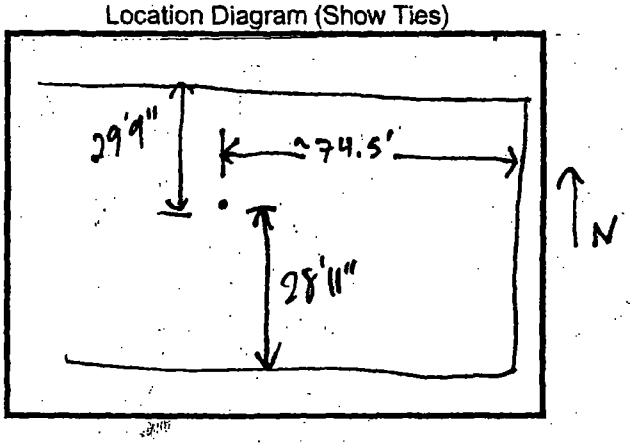
FID: n/a

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
.13L cell	Radon

TOTAL: 2

Location Diagram (Show Ties)



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SOIL VAPOR SAMPLE LOG

Sample ID	BAL-SV-04B-022706	Project/No.	NP000597.0006.
Date	2/27/06	Sampling Personnel	DBK, FS.
Time	1541	Duplicate ID	—
Weather	Partly cloudy, 25°F	Barometric Pressure	29.56" Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	Impress Industries	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	33980
Floor Type	Concete	Flow Regulator No.	33980
Cracks?	No	Pre Sample Vacuum	-28
Room Dimensions		Sample Depth (ft)	hole ~14", hanging probe at 6"
Tie Meas. 1	13' 3"	Purge Time	12.5 min
Tie Meas. 2	19' 10"	Purge Rate	200 mL/min
Tie Meas. 3	~50'	Purge Volume	~2.5L
		Begin Sample Time	1617
		End Sample Time	1657
		End Sample Vacuum	-3

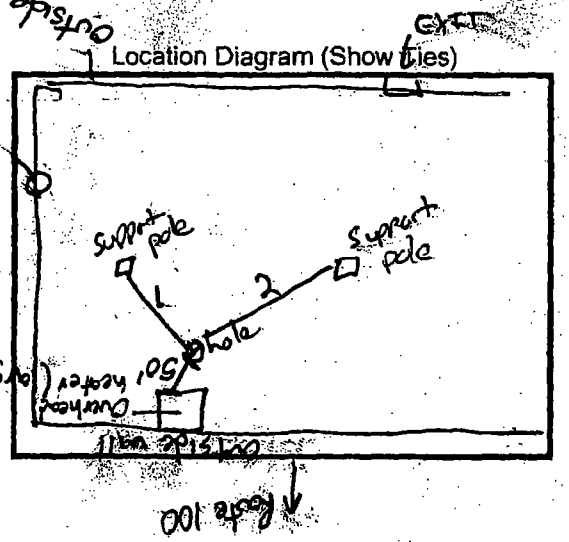
FIELD PARAMETERS:

Sample Method	6L Summa, TO-15 low level, sub slab
Sample Description	Sub Slab Vapor
PID	97.1 ppm, 0.8 ppm - ambient
FID	

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
TOTAL:	

Location Diagram (Show ties)



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SOIL VAPOR SAMPLE LOG

Sample ID	BAL-SV-005-022806	Project/No.	NP000597.0006.
Date	2.28.06	Sampling Personnel	RDM+DBK
Time	1123	Duplicate ID	BAL-SV-050-022806
Weather	mostly dry, upper 20s	Barometric Pressure	29.35"Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	L&Z Public Storage	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	94949 (Dup - ~~94883~~ 4084) RDM
Floor Type	Concrete	Flow Regulator No.	94949 (~~4Dup~~) RDM
Cracks?	Holes from tank feet	Pre Sample Vacuum	-28.4"Hg (Dup - -28.5"Hg)
Room Dimensions	~115x	Sample Depth (ft)	14"
Tie Meas.1	20' to S wall	Purge Time	1110 - 1122
Tie Meas. 2	30'8" to E wall w/ door	Purge Rate	200 ml/min
Tie Meas. 3	18' to stand alone room	Purge Volume	2.5 L
		Begin Sample Time	1123
		End Sample Time	1200
		End Sample Vacuum	-3.5"Hg Dup = -4.9"Hg

FIELD PARAMETERS:

Sample Method: Purge 2.5L through scintillation cell, attached Summa for sample then attached duplicate Summa

Sample Description: Sub Slab Vapor - slab ≈ 17" thick

Indoor Air Quality (IAQ-4)

PID: 1.6 ppm background: 0.3 ppm

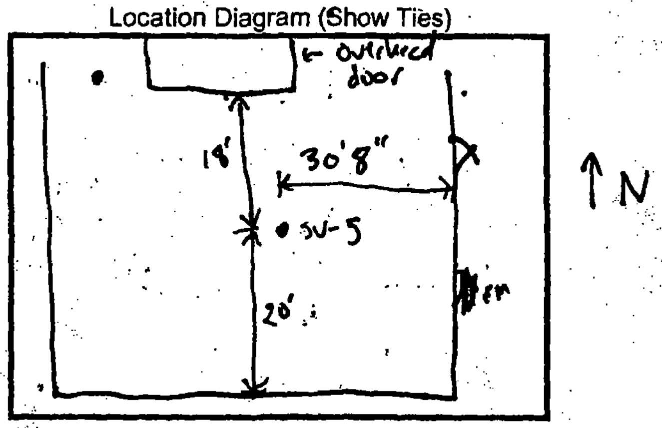
FID: n/a

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
3L scin. cell	Radon

TOTAL: 2 +Duplicate

Location Diagram (Show Ties)



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SOIL VAPOR SAMPLE LOG

Sample ID	BAL-SV-06-022706	Project/No.	NP000597.0006.
Date	2.27.06	Sampling Personnel	DBK, FS
Time	1220	Duplicate ID	—
Weather	Partly cloudy	Barometric Pressure	29.65" Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	S&G	Cannister Type	Summa
Facility	Former BES	Cannister No.	937
Floor Type	Concrete ~12" thick	Flow Regulator No.	937
Cracks?	None	Pre-Sample Vacuum	-29
Room Dimensions	300' x 500'	Sample Depth	Drilled 12". Floated probe at ~8".
Tie Meas.1	40'	Purge Time	12.5 min
Tie Meas. 2	8'7"	Purge Rate	200mL/min
Tie Meas. 3	11'4"	Purge Volume	~2.5 L
		Begin Sample Time	1220
		End Sample Time	13:12
		End Sample Vacuum	-1.5

FIELD PARAMETERS:

Sample Method

Sample Description: Sub Slab Vapor

PID: 0.3 ppm

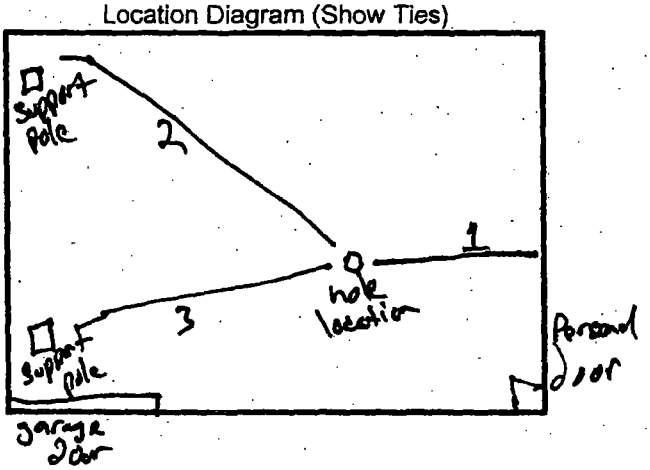
FID

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15

TOTAL:

Location Diagram (Show Ties)



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SOIL VAPOR SAMPLE LOG

Sample ID	BAL-SV-07-022706	Project/No.	NP000597.0006.
Date	2/27/26	Sampling Personnel	DBK
Time	1400	Duplicate ID	—
Weather	Partly cloudy, light snow 26°F	Barometric Pressure	~~26~~ 29.56" Hg

DESCRIPTION OF SAMPLE LOCATION:

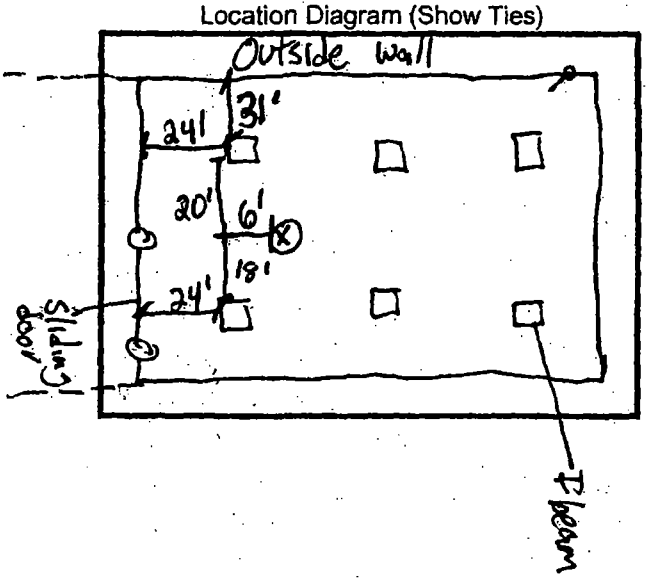
Location	S&G	Cannister Type	SUMMA
Facility	Former BES	Cannister No.	421
Floor Type	Asphalt	Flow Regulator No.	421
Cracks?	No	Pre Sample Vacuum	-30
Room Dimensions	150' x 150'	Sample Depth (ft)	Floating 6" below ground surface Hole ~ 13"
Tie Meas. 1		Purge Time	30 min
Tie Meas. 2		Purge Rate	~206 mL/min
Tie Meas. 3		Purge Volume	2.5 L
		Begin Sample Time	1413
FIELD PARAMETERS:		End Sample Time	1453
		End Sample Vacuum	-3.5"
Sample Method	6L Summa Sub slab - 30 min. sample		
Sample Description	Sub Slab Vapor		
PID	44.1 ppm, ambient = 1.7 ppm		
FID			

Mid Sample time 1430
Mid Sample Vac -14"
Sample time = 1443
Sample Vac = -6.0"

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
TOTAL:	

Location Diagram (Show Ties)



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SOIL VAPOR SAMPLE LOG

Sample ID	BAL-SV-008-022806	Project/No.	NP000597.0006.
Date	2.28.06	Sampling Personnel	RDM + OBK
Time		Duplicate ID	n/a
Weather	clear, mid-upper 30s	Barometric Pressure	

DESCRIPTION OF SAMPLE LOCATION:

Location	Basement below Curves	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	02242
Floor Type	Concrete	Flow Regulator No.	02242
Cracks?	NO	Pre Sample Vacuum	-30" Hg
Room Dimensions		Sample Depth (ft)	~2.0"
Tie Meas.1	7'9" to doorwall (W)	Purge Time	1456-1508
Tie Meas. 2	14'9" to S wall	Purge Rate	200 mL/min
Tie Meas. 3	30'9" to N wall	Purge Volume	2.5 L
		Begin Sample Time	1509
FIELD PARAMETERS:		End Sample Time	1547
		End Sample Vacuum	-4.0" Hg

Sample Method: Purge 2.5 L through scintillation cell then attach Summa

Sample Description: Sub Slab Vapor

Indoor Air Quality (IAQ-3A + IAQ-3B) A: upstairs B: basement

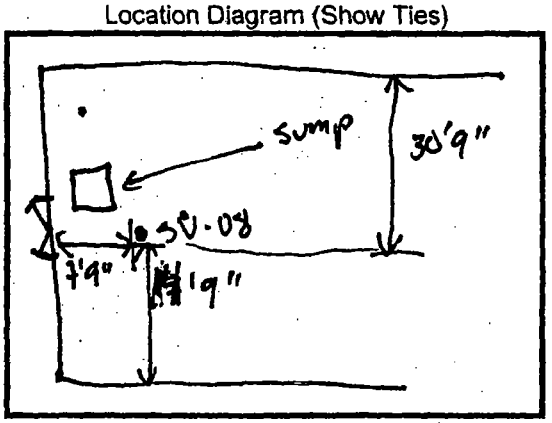
PID: 0

FID: n/a

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
0.1 3L Scin. cell	Radon
TOTAL: 2	

Location Diagram (Show Ties)



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SOIL VAPOR SAMPLE LOG

Sample ID	BAL-SV-009-030106	Project/No.	NP000597.0006.
Date	3.1.06	Sampling Personnel	RDM + DBK
Time	0931	Duplicate ID	n/a
Weather	clear, low 30s	Barometric Pressure	29.29" Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	S+G	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	23882
Floor Type	Concrete	Flow Regulator No.	23882
Cracks?		Pre Sample Vacuum	-28.6" Hg
Room Dimensions		Sample Depth (ft)	7"
Tie Meas.1	42' to I-beam w/ OH tank	Purge Time	0917-0929
Tie Meas. 2	115' to E wall	Purge Rate	200 mL/min
Tie Meas. 3	252' to N wall	Purge Volume	2.5 L
		Begin Sample Time	0931
		End Sample Time	1011
		End Sample Vacuum	-4.0" Hg

FIELD PARAMETERS:

Sample Method: purge 2.5 L through scintillation cell then attach Summa

Sample Description: Sub Slab Vapor - slab ~ 16" thick

PID: 116 ppm

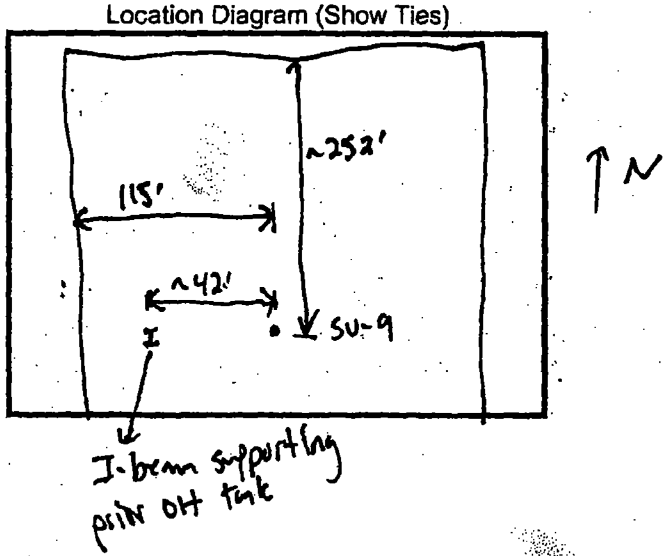
FID: n/a

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
0.13L Scin. cell	Radon

TOTAL: 2

Location Diagram (Show Ties)



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SOIL VAPOR SAMPLE LOG

Sample ID	BAL-SV-010-022806	Project/No.	NP000597.0006.
Date	2.28.06	Sampling Personnel	RDM + DBC
Time	1326	Duplicate ID	n/a
Weather	mostly clear, low 30s	Barometric Pressure	29.35" Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	Hunsinger Plastics (HPE)	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	9544
Floor Type	Concrete	Flow Regulator No.	9544
Cracks?		Pre Sample Vacuum	-30.0" Hg
Room Dimensions		Sample Depth (ft)	Drilled ~8", hanging probe ~3" above bottom
Tie Meas. 1	22' to door wall	Purge Time	1341-1353
Tie Meas. 2	6.5' to I-beam	Purge Rate	200 mL/min
Tie Meas. 3	48' to N wall new overhead door	Purge Volume	2.5L
		Begin Sample Time	1355
		End Sample Time	1431
		End Sample Vacuum	-4.5" Hg

FIELD PARAMETERS:

Sample Method: 6L Summa, sub slab, TO-15 analysis

Sample Description: Sub Slab Vapor

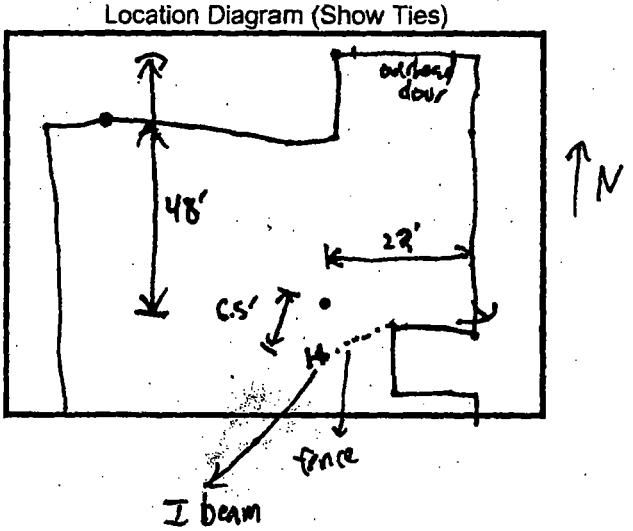
PID: 5.2 ppm; background: 0.5 ppm

FID: n/a

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
0.13L scin. cell	Radon
TOTAL: 2	

Location Diagram (Show Ties)



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ARCADIS G&M

SOIL VAPOR SAMPLE LOG

Sample ID	Bal-SV-11-030106	Project/No.	NP000597.0006.
Date	3/1/06	Sampling Personnel	OBL, RDM
Time	1107 - 1150	Duplicate ID	—
Weather	Sunny, 35°F	Barometric Pressure	29.36" Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	Gregory Woodworkings	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	2398C
Floor Type	Linoleum	Flow Regulator No.	2398C
Cracks?	unknown	Pre Sample Vacuum	-33" Hg
Room Dimensions	4'6" x 67'	Sample Depth (ft)	3"
Tie Meas.1	19'5" from E wall	Purge Time	1055 - 1107
Tie Meas. 2	15' from S wall	Purge Rate	200 mL/min
Tie Meas. 3	39" from N wall	Purge Volume	2.5 L
		Begin Sample Time	1107
FIELD PARAMETERS:		End Sample Time	1150
		End Sample Vacuum	-4.4" Hg

Sample Method: purge 2.5 L through Scintillation cell, then attach Summa

Sample Description: Sub Slab Vapor - slab: 6" thick

PID

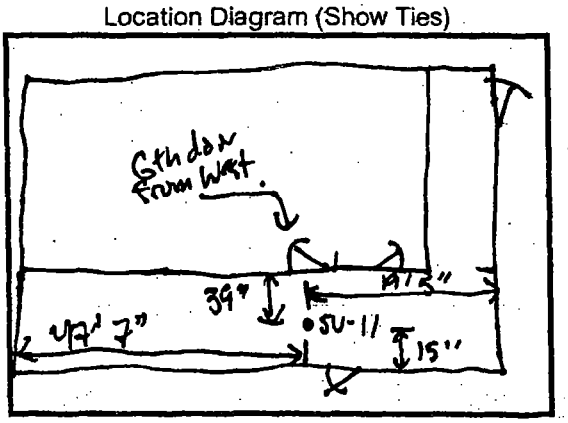
FID: n/a

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
0.13L Scin. cell	Radon

TOTAL: 2

Location Diagram (Show Ties)



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ARCADIS G&M

INDOOR AIR QUALITY SAMPLE LOG

Sample ID	AA-West	Project/No.	NP000597.0006.00004
Date	8/28/06	Sampling Personnel	R.Gorrie, A. Faulkner
Time	1110	Duplicate ID	—
Weather	Cloudy, showers	Barometric Pressure	998 mb/hPa
		Corresponding Subslab ID	—

DESCRIPTION OF SAMPLE LOCATION:

Location	West side of facility	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	33945
Floor Type	—	Flow Regulator No.	FC00251
Cracks?	—	Pre Sample Vacuum	-30 mmHg
Room Dimensions		Begin Sample Time	1145
Tie Meas.1	4.5'	Mid Sample Time	1515
Tie Meas. 2	6.5'	Mid Sample Vacuum	-18 "Hg
Tie Meas. 3	35.0'	End Sample Time	2125
Intake Height	~3 ft.	End Sample Vacuum	-5" Hg

FIELD PARAMETERS:

Sample Method: IA SOP.

Sample Description: Ambient air sample on west side of facility.

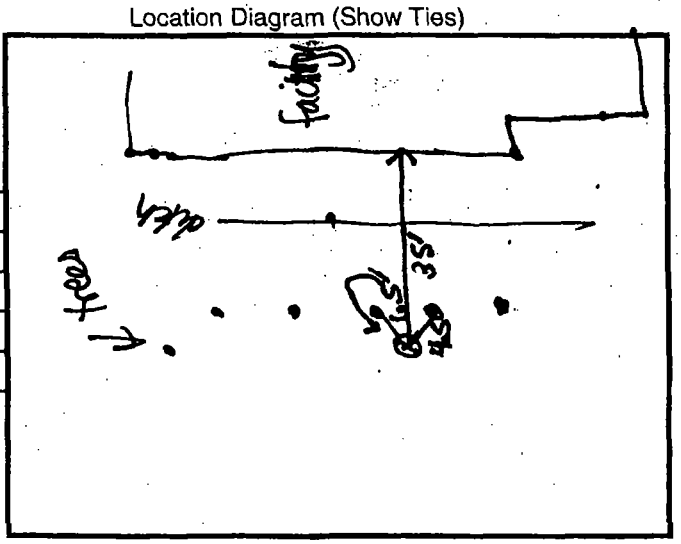
PID: 0.0 ppm.

FID:

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



ARCADIS G&M

INDOOR AIR QUALITY SAMPLE LOG

Sample ID	AA - East	Project/No.	NP000597.0006.00004
Date	6/28/06	Sampling Personnel	R.Gorrie, A. Faulkner
Time	1110	Duplicate ID	—
Weather	Cloudy, showers	Barometric Pressure	998 mb/hPa
		Corresponding Subslab ID	—

DESCRIPTION OF SAMPLE LOCATION:

Location	East side of facility	Cannister Type	6 L Summa
Facility	Former BES	Cannister No.	22500
Floor Type		Flow Regulator No.	3 FC00287
Cracks?		Pre Sample Vacuum	7-30 " Hg
Room Dimensions		Begin Sample Time	1140
Tie Meas.1	24'	Mid Sample Time	1526
Tie Meas. 2	33'	Mid Sample Vacuum	-19." Hg
Tie Meas. 3	1.3'	End Sample Time	2010
Intake Height	~3'	End Sample Vacuum	-4.5" Hg

FIELD PARAMETERS:

Sample Method: IA SOP.

Sample Description: Ambient air on east side of facility.

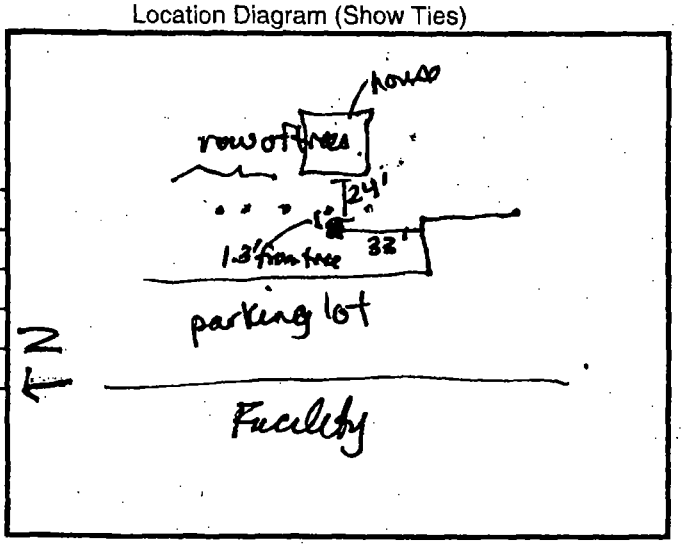
PID: 0.00 ppm

FID:

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



ARCADIS G&M

INDOOR AIR QUALITY SAMPLE LOG

Sample ID	IA-A-1	Project/No.	NP000597.0006.00004
Date	8/28/06	Sampling Personnel	R.Gorrie, A. Faulkner
Time	1210	Duplicate ID	IA-A-1 (dup)
Weather	Cloudy	Barometric Pressure	998 mb/hPa
		Corresponding Subslab ID	SS-A-1

DESCRIPTION OF SAMPLE LOCATION:

Location	Impress Industries	Cannister Type	6 L Summa
Facility	Former BES	Cannister No.	13670 / 95671 (dup)
Floor Type	Concrete	Flow Regulator No.	FC00615 / FC00831 (dup)
Cracks?	—	Pre Sample Vacuum	>-30 mm Hg / -30 mm Hg
Room Dimensions		Begin Sample Time	1225
Tie Meas.1	3.5'	Mid Sample Time	-16.5 "Hg / -16 "Hg
Tie Meas. 2	6.5'	Mid Sample Vacuum	1600
Tie Meas. 3	14.5'	End Sample Time	2100
Intake Height	3'	End Sample Vacuum	-5.0" / -5.0"

FIELD PARAMETERS:

Sample Method: IA SOP

Sample Description: Outside Impress building: - Heavy duty engine cleaner/degreaser (Engine Brite)
- Rustoleum (Acetone, xylene)

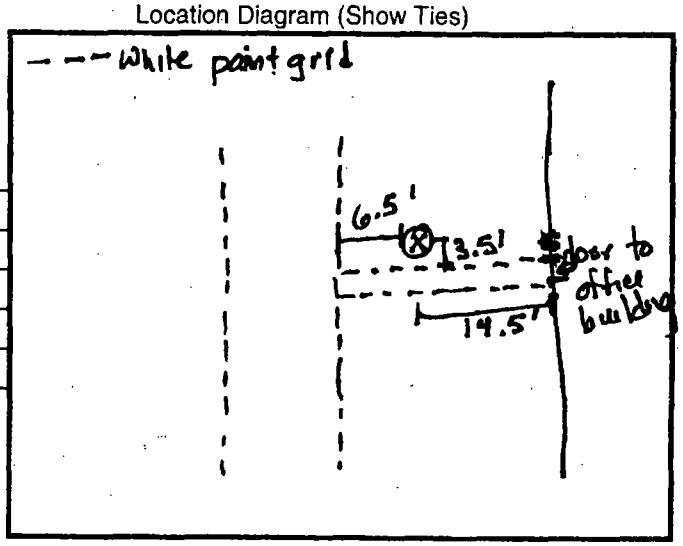
PID: 0.0 ppm

FID:

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



ARCADIS G&M

INDOOR AIR QUALITY SAMPLE LOG

Sample ID	IA-A-2	Project/No.	NP000597.0006.00004
Date	8/28/06	Sampling Personnel	R.Gorrie, A. Faulkner
Time	1120	Duplicate ID	—
Weather	Cloudy, showers	Barometric Pressure	998 mb/hPa
		Corresponding Subslab ID	SS-A-2

DESCRIPTION OF SAMPLE LOCATION:

Location	Hunsnger Plastics	Cannister Type	6 L Summa
Facility	Former BES	Cannister No.	35142
Floor Type	concrete	Flow Regulator No.	FC00437/10770
Cracks?	—	Pre Sample Vacuum	-30 mm Hg
Room Dimensions		Begin Sample Time	1200
Tie Meas.1	0.5'	Mid Sample Time	1520
Tie Meas. 2	15'	Mid Sample Vacuum	-21 " Hg
Tie Meas. 3	25'	End Sample Time	~~[illegible]~~ 2210
Intake Height	3'	End Sample Vacuum	~~[illegible]~~ -6.5 "Hg

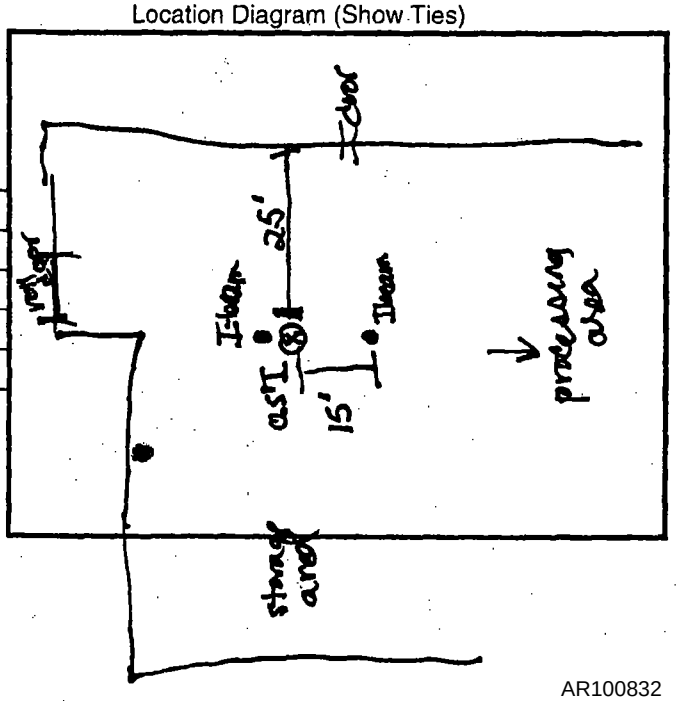
FIELD PARAMETERS:

Sample Method	IA-SOP
Sample Description	Hunsnger Plastics indoor air. Plastics materials open - labeled PVC.
PID	0.0.
FID	

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



ARCADIS G&M

INDOOR AIR QUALITY SAMPLE LOG

Sample ID	IA-A-4	Project/No.	NP000597.0006.00004
Date	8/28/06	Sampling Personnel	R.Gorrie, A. Faulkner
Time	1050	Duplicate ID	—
Weather	Cloudy, Showers	Barometric Pressure	997 mb/hPa
		Corresponding Subslab ID	~~IA~~ SS-A-4

DESCRIPTION OF SAMPLE LOCATION:

Location	Gregory Woodworking	Cannister Type	~~3298~~ 6L Summa
Facility	Former BES	Cannister No.	~~FC00796~~ 32987
Floor Type		Flow Regulator No.	FC00796
Cracks?	no.	Pre Sample Vacuum	-30 ~~mm~~ " Hg
Room Dimensions		Begin Sample Time	1105
Tie Meas.1		Mid Sample Time	1510
Tie Meas. 2		Mid Sample Vacuum	-15.5" Hg
Tie Meas. 3		End Sample Time	2000
Intake Height		End Sample Vacuum	-5.5" Hg

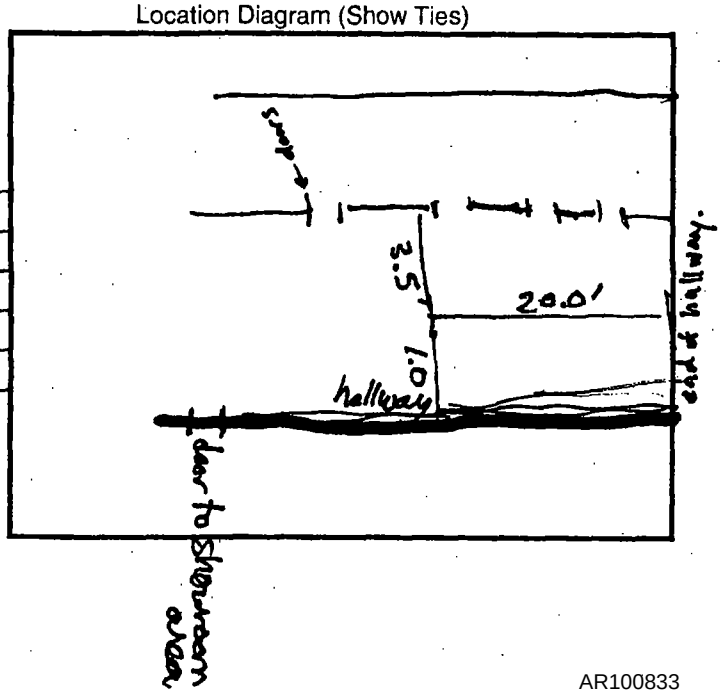
FIELD PARAMETERS:

Sample Method	TA SOP
Sample Description	Greg. Woodworking. Inlet located 3.3 ft. above ground. • Styrene: Acetone/Toluene/methanol/methylene chloride located in adjacent room. Wood stain, spray adhesive, caulk in main room.
PID	0.0 ppm
FID	

CONTAINER DESCRIPTION:

	Container	Analysis
	6L Summa	TO-15
Total		

Location Diagram (Show Ties)



ARCADIS G&M

INDOOR AIR QUALITY SAMPLE LOG

Sample ID	IA-A-5	Project/No.	NP000597.0006.00004
Date	8/28/06	Sampling Personnel	R.Gorrie, A. Faulkner
Time		Duplicate ID	—
Weather	Cloudy, rain showers.	Barometric Pressure	997 mb/hPa
		Corresponding Subslab ID	SS-A-5

DESCRIPTION OF SAMPLE LOCATION:

Location	Empty area (former T&G Packaging)	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	33938
Floor Type	Concrete	Flow Regulator No.	14117
Cracks?		Pre Sample Vacuum	-30 "Hg
Room Dimensions		Begin Sample Time	1030
Tie Meas.1		Mid Sample Time	1455
Tie Meas. 2		Mid Sample Vacuum	-13.5 "Hg
Tie Meas. 3		End Sample Time	1830
Intake Height		End Sample Vacuum	-5 "Hg

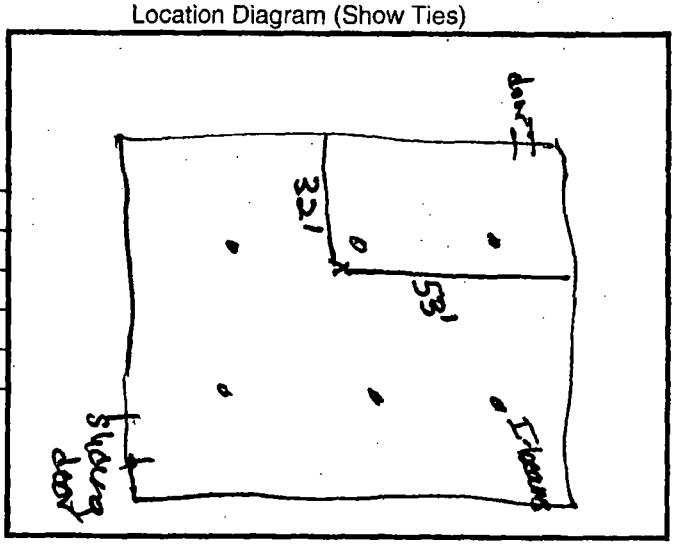
FIELD PARAMETERS:

Sample Method	IA SOP
Sample Description	IA sample at former T&G Packaging. 3' above ground intake.
PID	0.0 ppm
FID	

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



32'
53'

ARCADIS G&M

INDOOR AIR QUALITY SAMPLE LOG

Sample ID	IA-A-6	Project/No.	NP000597.0006.00004
Date	8/28/06	Sampling Personnel	R.Gorrie, A. Faulkner
Time		Duplicate ID	—
Weather	Cloudy, rain showers	Barometric Pressure	997 mb/hPa
		Corresponding Subslab ID	SS-A-6

DESCRIPTION OF SAMPLE LOCATION:

Location	S+W Metals Inc.	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	R-5
Floor Type	Concrete slab	Flow Regulator No.	1739
Cracks?		Pre Sample Vacuum	-30 in Hg
Room Dimensions		Begin Sample Time	1040 (-27.5 in Hg)
Tie Meas.1		Mid Sample Time	1505
Tie Meas. 2		Mid Sample Vacuum	(-15.5 in Hg)
Tie Meas. 3		End Sample Time	2020
Intake Height	3'	End Sample Vacuum	-5 in Hg

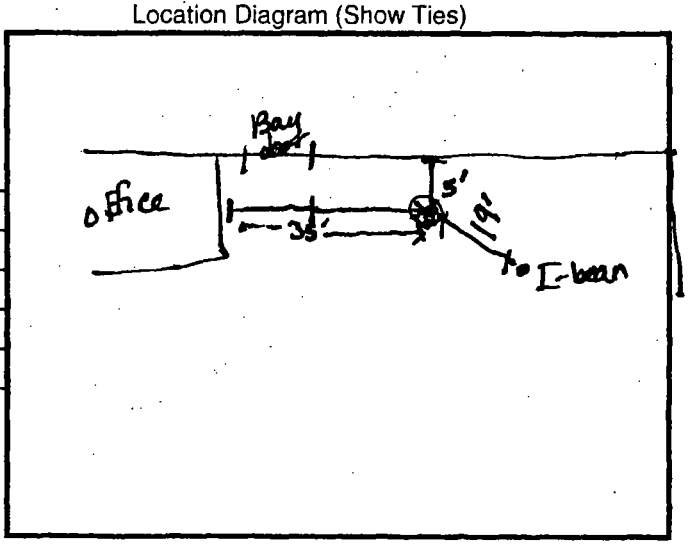
FIELD PARAMETERS:

Sample Method	I.A. S.O.P
Sample Description	Indoor Air sample @ S+W Metals / 8 hr. Intake at 3'.
PID	0.0 ppm
FID	

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



ARCADIS G&M

SOIL VAPOR SAMPLE LOG

Sample ID	SS-A-1	Project/No.	NP000597.0006.00004
Date	8/30/06	Sampling Personnel	R. Gorrie, A. Faulkner
Time		Duplicate ID	SS-A-1 (dup)
Weather	Cloudy	Barometric Pressure	29.53 "Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	Impress Industries	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	13671 / 1577
Floor Type	Concrete	Flow Regulator No.	FC00890 / FC00785
Cracks?	no.	Pre Sample Vacuum	-30 "Hg / -30 "Hg
Room Dimensions		Sample Depth (ft)	Probe floor at 7"
Tie Meas.1	3'	Purge Time	1115-1125
Tie Meas. 2	17.6'	Purge Rate	200 mL/min
Tie Meas. 3	21.2'	Purge Volume	2 L
		Begin Sample Time	1125
FIELD PARAMETERS:		End Sample Time	1222
		End Sample Vacuum	-1.5"Hg / -1" Hg

Sample Method: SS SOP

Sample Description: Sub Slab Vapor — Total drilled ~9", Floated probe at 7"

* SS-A-1 (dup) collecting more quickly than other sample and than previous samples. (ie at -7" at 20 min elapsed). No specific leak or noise noted.

PID: 0.0 ppm

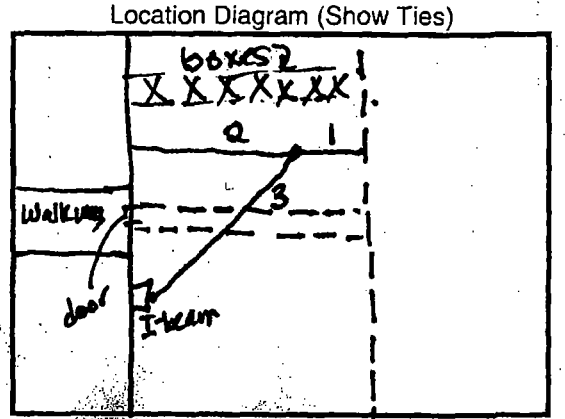
FID:

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-14

TOTAL:

Location Diagram (Show Ties)



- - = paint line (white)

ARCADIS G&M

SOIL VAPOR SAMPLE LOG

Sample ID	SS-A-2	Project/No.	NP000597.0006.00004
Date	8/30/06	Sampling Personnel	R. Gorrie, A. Faulkner
Time	840	Duplicate ID	—
Weather	Cloudy	Barometric Pressure	29.53 "Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	Hunsnger Plastics	Cannister Type	6 L Summa
Facility	Former BES	Cannister No.	31133
Floor Type	Concrete	Flow Regulator No.	FC00144
Cracks?	no.	Pre Sample Vacuum	> -30 "Hg
Room Dimensions		Sample Depth (ft)	drilled - 8", floated at 6"
Tie Meas.1	3.9'	Purge Time	911-924
Tie Meas. 2	13.7'	Purge Rate	200 mL/min
Tie Meas. 3	21.5'	Purge Volume	2L
		Begin Sample Time	924
FIELD PARAMETERS:		End Sample Time	1028
		End Sample Vacuum	-2" Hg

Sample Method: SS SOP

Sample Description: Sub Slab Vapor

PID: 18.1 (bkgd = 0.4) ppm

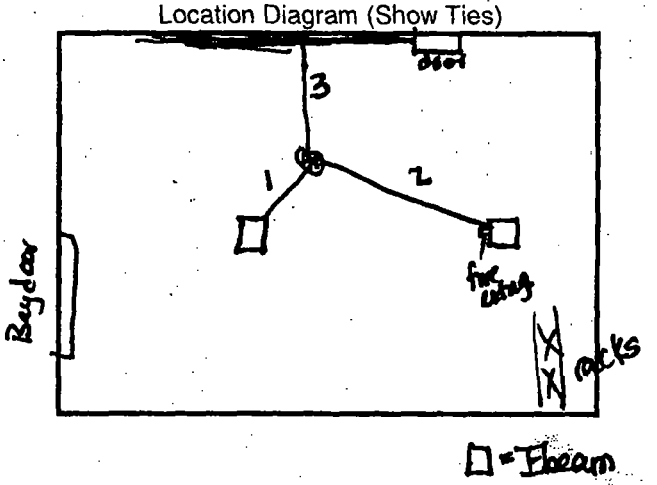
FID:

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-14

TOTAL:

Location Diagram (Show Ties)



ARCADIS G&M

SOIL VAPOR SAMPLE LOG

Sample ID	SS-A-3	Project/No.	NP000597.0006.00004
Date	8/30/16	Sampling Personnel	R. Gorrie, A. Faulkner
Time	1430	Duplicate ID	—
Weather	Cloudy	Barometric Pressure	29.5 "Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	Luciano's (former L+Z Storage)	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	34421
Floor Type	Concrete	Flow Regulator No.	FC00185
Cracks?	no	Pre Sample Vacuum	-30 "Hg
Room Dimensions		Sample Depth (ft)	Drilled 4" through slab. Float at 4?
Tie Meas.1	18.5'	Purge Time	1514-1524
Tie Meas. 2	17.8'	Purge Rate	200 mL/min
Tie Meas. 3	17.5'	Purge Volume	2L
		Begin Sample Time	1525
FIELD PARAMETERS:		End Sample Time	1635
		End Sample Vacuum	-2" Hg

Sample Method: SS SOP

Sample Description: Sub Slab Vapor

PID: 3kgd: 2.1-4.9, 2.1 at hole.

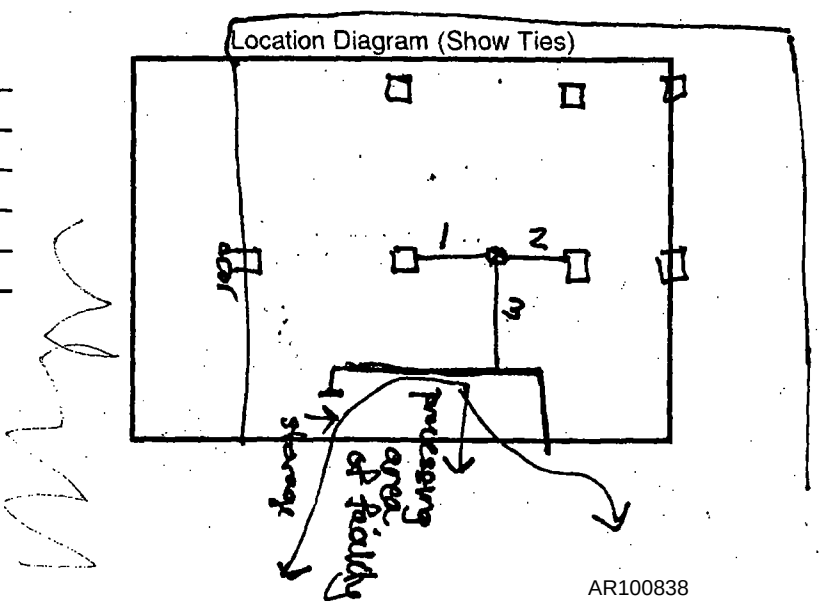
FID:

CONTAINER DESCRIPTION:

	Container	Analysis
	6L Summa	TO-14
TOTAL:		

□ = I-beam

Location Diagram (Show Ties)



ARCADIS G&M

SOIL VAPOR SAMPLE LOG

Sample ID	SS-A-4	Project/No.	NP000597.0006.00004
Date	8/29/06	Sampling Personnel	R. Gorrie, A. Faulkner
Time	915	Duplicate ID	—
Weather	Cloudy, showers	Barometric Pressure	

DESCRIPTION OF SAMPLE LOCATION:

Location	Gregory's Woodworking	Cannister Type	6L Summa
Facility	Former BES	Cannister No.	2 4496
Floor Type	Concrete/linoleum tile	Flow Regulator No.	FC002429
Cracks?	none.	Pre Sample Vacuum	> -30 " Hg
Room Dimensions		Sample Depth (ft)	6"
Tie Meas.1	1.3	Purge Time	955-1007 (12 min)
Tie Meas. 2	3.75	Purge Rate	200 mL/min
Tie Meas. 3	19.4	Purge Volume	2L
		Begin Sample Time	1008
FIELD PARAMETERS:		End Sample Time	1100
		End Sample Vacuum	-2 "Hg

Sample Method: SS SOP.

Sample Description: Sub Slab Vapor

PID: 2.5

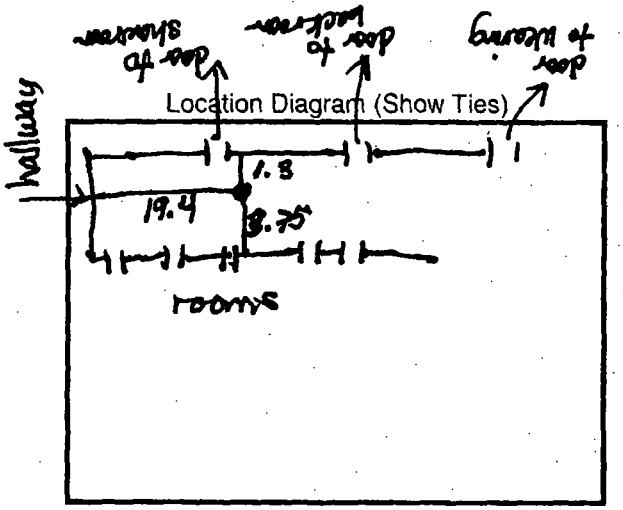
FID:

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-14

TOTAL:

Location Diagram (Show Ties)



ARCADIS G&M

SOIL VAPOR SAMPLE LOG

Sample ID	SS-A-5	Project/No.	NP000597.0006.00004
Date	8/29/06	Sampling Personnel	R. Gorrie, A. Faulkner
Time	1135	Duplicate ID	—
Weather	Cloudy, showers	Barometric Pressure	29.32" Hg

DESCRIPTION OF SAMPLE LOCATION:

Location	Former STW (empty room)	Cannister Type	6 L Summa
Facility	Former BES	Cannister No.	4064
Floor Type	~~Concrete~~ Asphalt	Flow Regulator No.	FC00732
Cracks?	—	Pre Sample Vacuum	-30" Hg
Room Dimensions		Sample Depth (ft)	1'
Tie Meas.1	19'	Purge Time	1218 - 1228
Tie Meas. 2	21'	Purge Rate	200 mL/min
Tie Meas. 3	30.6'	Purge Volume	~2 L
		Begin Sample Time	1228
FIELD PARAMETERS:		End Sample Time	1326
		End Sample Vacuum	0 "Hg
Sample Method	SS SOP		
Sample Description	Sub Slab Vapor – drilled 12", sampled at 11"		
PID	50 ppm (max.)		
FID			

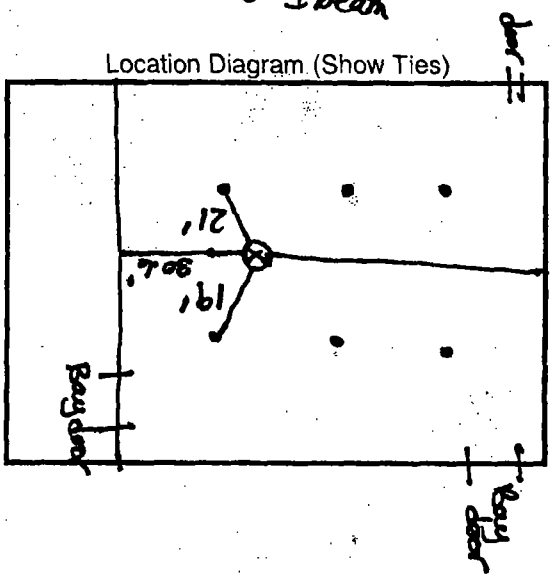
CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-14

TOTAL:

⊗ = sample
● = Ibeam

Location Diagram (Show Ties)



ARCADIS G&M

SOIL VAPOR SAMPLE LOG

Sample ID	SS-A-6	Project/No.	NP000597.0006.00004
Date	8/29/06	Sampling Personnel	R. Gorrie, A. Faulkner
Time	1450	Duplicate ID	—
Weather	Cloudy showers	Barometric Pressure	29.32" Hg

DESCRIPTION OF SAMPLE LOCATION:

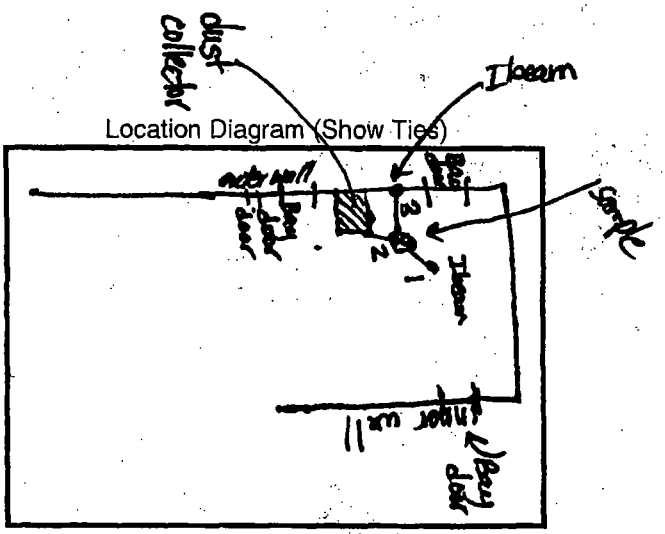
Location	Cutting Edge	Cannister Type	6 L Summa
Facility	Former BES	Cannister No.	10781
Floor Type	Concrete	Flow Regulator No.	FC0946
Cracks?	none	Pre Sample Vacuum	-30 "Hg
Room Dimensions		Sample Depth (ft)	8"
Tie Meas.1	8.8	Purge Time	1507-1517
Tie Meas. 2	3.2	Purge Rate	200 mL/min
Tie Meas. 3	6.3	Purge Volume	2 Liters
		Begin Sample Time	1517
FIELD PARAMETERS:		End Sample Time	1620
		End Sample Vacuum	-7.0 "Hg (zeroed at -6")
Sample Method	SS SOP		
Sample Description	Sub Slab Vapor		
	Note: flow controller zeros at -6 "Hg. Drilled ~9".		
PID	0.00 ppm		
FID			

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-14

TOTAL:

Location Diagram (Show Ties)



f:\stds\forms\Soil Vapor Sample.xls

ARCADIS G&M

INDOOR AIR QUALITY SAMPLE LOG

Sample ID	IA-A-1-101206	Project/No.	NP000597.0006.00004
Date	10/12/2006	Sampling Personnel	C. Sharpe
Time	16:30	Duplicate ID	NA
Weather	Overcast	Barometric Pressure	
		Corresponding Subslab ID	NA

DESCRIPTION OF SAMPLE LOCATION:

Location	Impress Industries	Cannister Type	6 L Summa
Facility	Former BES	Cannister No.	24224
Floor Type	Concrete	Flow Regulator No.	24224
Cracks?		Pre Sample Vacuum	28 "Hg
Room Dimensions		Begin Sample Time	07:19
Tie Meas.1	18'	Mid Sample Time	12:03
Tie Meas. 2		Mid Sample Vacuum	11" Hg
Tie Meas. 3		End Sample Time	1630
Intake Height		End Sample Vacuum	9" Hg
			Note 0=5 in Hg

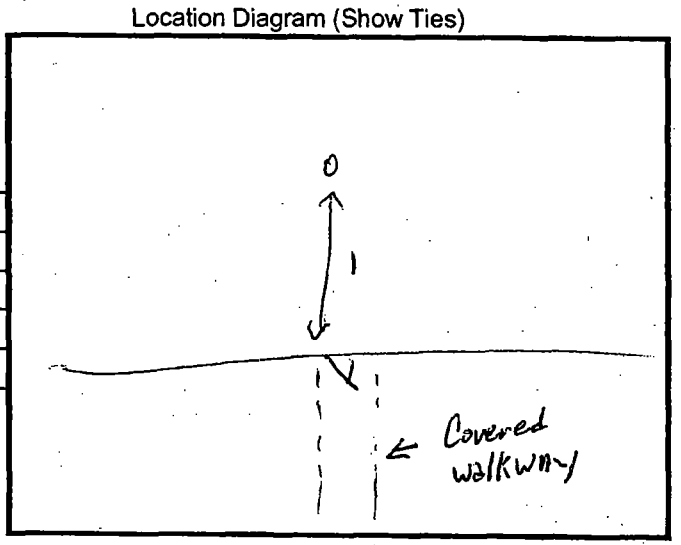
FIELD PARAMETERS:

Sample Method	IA- SOP
Sample Description	Indoor Air Sample Collected to Verify Previous Result at IAQ-1 & IA-1
PID	NA
FID	NA

CONTAINER DESCRIPTION:

Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



ARCADIS G&M

INDOOR AIR QUALITY SAMPLE LOG

Sample ID	IA-A-3-101206	Project/No.	NP000597.0006.00004
Date	10/12/2006	Sampling Personnel	C. Sharpe
Time	1621	Duplicate ID	N/A
Weather	P. Sunny	Barometric Pressure	
		Corresponding Subslab ID	N/A

DESCRIPTION OF SAMPLE LOCATION:

Location	Impress Industries	Cannister Type	6 L Summa
Facility	Former BES	Cannister No.	14109
Floor Type	Concrete	Flow Regulator No.	14109
Cracks?		Pre Sample Vacuum	28 in Hg
Room Dimensions		Begin Sample Time	0755
Tie Meas.1	47 ft	Mid Sample Time	1205
Tie Meas. 2	10 ft	Mid Sample Vacuum	12 in Hg
Tie Meas. 3	30 ft	End Sample Time	1621
Intake Height	6 ft	End Sample Vacuum	7 in Hg (Zero = 5)

FIELD PARAMETERS:

Sample Method: IA- SOP

Sample Description: Indoor Air Sample Collected in E Corner of Warehouse near Several Wall penetrations by pipes

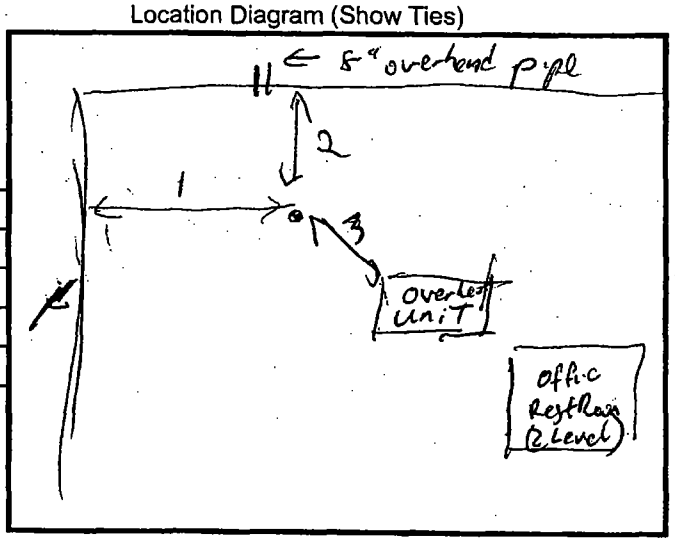
PID: NA

FID: NA

CONTAINER DESCRIPTION:

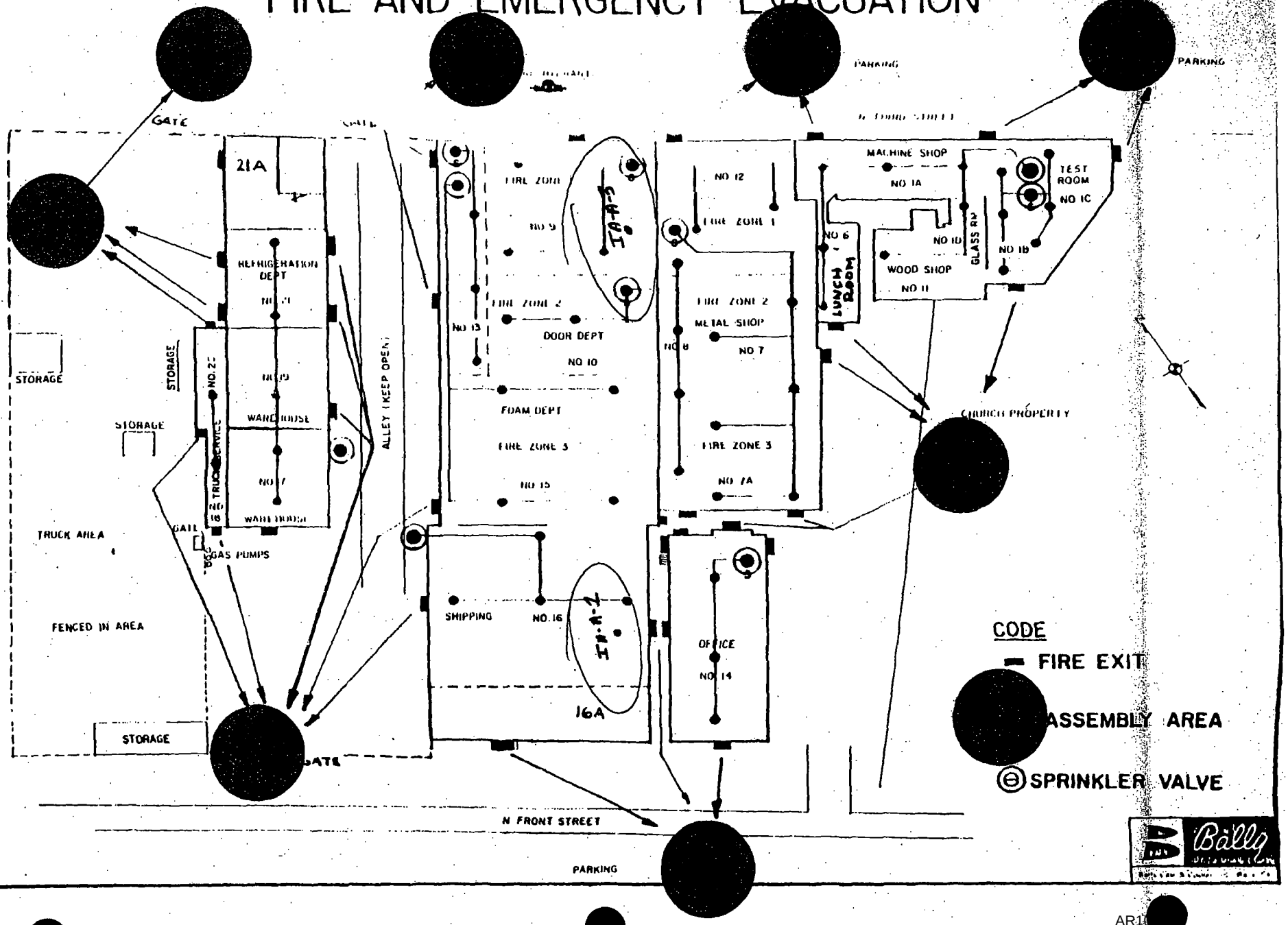
Container	Analysis
6L Summa	TO-15
Total	

Location Diagram (Show Ties)



10/12/06 Sample)

FIRE AND EMERGENCY EVACUATION



Appendix C

Laboratory Data Packages

@ AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0602635

Work Order Summary

CLIENT:	Ms. Diane Wisbeck Arcadis G&M, Inc. 1114 Benfield Blvd., Suite A Millersville, MD 21108	**BILL TO:**	Mr. Christopher Sharpe Arcadis G&M, Inc. 6 Terry Dr., Suite 300 Newtown, PA 18940
PHONE:	410-987-0032	**P.O. #**	
FAX:	410-987-4392	**PROJECT #**	NP597.6 AH Bally
DATE RECEIVED:	02/27/2006	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/09/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	BAL-IAQ-04-022406	Modified TO-15 SIM	5.0 "Hg
02A	BAL-IAQ-05-022406	Modified TO-15 SIM	12.0 "Hg
03A	BAL-IAQ-06-022406	Modified TO-15 SIM	7.5 "Hg
03AA	BAL-IAQ-06-022406 Duplicate	Modified TO-15 SIM	7.5 "Hg
04A	BAL-IAQ-01-022406	Modified TO-15 SIM	5.0 "Hg
05A	BAL-IAQ-02-022406	Modified TO-15 SIM	6.0 "Hg
06A	BAL-IAQ-03B-DUP-022406	Modified TO-15 SIM	6.0 "Hg
07A	BAL-IAQ-03B-022406	Modified TO-15 SIM	6.0 "Hg
08A	BAL-IAQ-03A-022406	Modified TO-15 SIM	4.5 "Hg
09A	BAL-IAQ-07-022406	Modified TO-15 SIM	10.5 "Hg
09AA	BAL-IAQ-07-022406 Duplicate	Modified TO-15 SIM	10.5 "Hg
10A	BAL-IAQ-DW-022406	Modified TO-15 SIM	5.0 "Hg
11A	BAL-IAQ-VW-022406	Modified TO-15 SIM	3.5 "Hg
12A	Lab Blank	Modified TO-15 SIM	NA
13A	CCV	Modified TO-15 SIM	NA
14A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY: Linda A. Frumarc DATE: 03/09/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: BAL-IAQ-04-022406

Lab ID#: 0602635-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.016	1.9	0.064	7.4
1,1,1-Trichloroethane	0.032	1.5	0.18	8.4
Trichloroethene	0.032	9.0	0.17	48

Client Sample ID: BAL-IAQ-05-022406

Lab ID#: 0602635-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.022	9.3	0.088	37
1,1,1-Trichloroethane	0.045	2.4	0.24	13
Trichloroethene	0.045	1.4	0.24	7.7

Client Sample ID: BAL-IAQ-06-022406

Lab ID#: 0602635-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.018	13	0.071	53
1,1,1-Trichloroethane	0.036	3.6	0.20	19
Trichloroethene	0.036	0.95	0.19	5.1

Client Sample ID: BAL-IAQ-06-022406 Duplicate

Lab ID#: 0602635-03AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.018	13	0.071	52
1,1,1-Trichloroethane	0.036	3.6	0.20	20
Trichloroethene	0.036	0.96	0.19	5.2

Client Sample ID: BAL-IAQ-01-022406

Lab ID#: 0602635-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.016	0.91	0.064	3.6
1,1,1-Trichloroethane	0.032	0.99	0.18	5.4

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: BAL-IAQ-01-022406

Lab ID#: 0602635-04A

Trichloroethene	0.032	7.4	0.17	40

Client Sample ID: BAL-IAQ-02-022406

Lab ID#: 0602635-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.017	0.077	0.067	0.30
1,1,1-Trichloroethane	0.034	0.079	0.18	0.43
Trichloroethene	0.034	0.46	0.18	2.5

Client Sample ID: BAL-IAQ-03B-DUP-022406

Lab ID#: 0602635-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.017	0.018	0.067	0.070
1,1,1-Trichloroethane	0.034	0.073	0.18	0.40
Trichloroethene	0.034	0.26	0.18	1.4

Client Sample ID: BAL-IAQ-03B-022406

Lab ID#: 0602635-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,1-Trichloroethane	0.034	0.070	0.18	0.38
Trichloroethene	0.034	0.26	0.18	1.4

Client Sample ID: BAL-IAQ-03A-022406

Lab ID#: 0602635-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.016	0.016	0.063	0.065
1,1,1-Trichloroethane	0.032	0.076	0.17	0.42
Trichloroethene	0.032	0.55	0.17	2.9

Client Sample ID: BAL-IAQ-07-022406

Lab ID#: 0602635-09A

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: BAL-IAQ-07-022406

Lab ID#: 0602635-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.041	0.080	0.22	0.43

Client Sample ID: BAL-IAQ-07-022406 Duplicate

Lab ID#: 0602635-09AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.041	0.083	0.22	0.45

Client Sample ID: BAL-IAQ-DW-022406

Lab ID#: 0602635-10A

No Detections Were Found.

Client Sample ID: BAL-IAQ-VW-022406

Lab ID#: 0602635-11A

No Detections Were Found.

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-04-022406

Lab ID#: 0602635-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030705**	**Date of Collection:**	**2/24/06**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/06 03:15 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	1.9	0.064	7.4
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	1.5	0.18	8.4
Trichloroethene	0.032	9.0	0.17	48

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	115	70-130
4-Bromofluorobenzene	90	70-130

Client Sample ID: BAL-IAQ-05-022406

Lab ID#: 0602635-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030706**	**Date of Collection:**	**2/24/06**
Dil. Factor:	**2.23**	**Date of Analysis:**	**3/7/06 03:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.022	Not Detected	0.057	Not Detected
1,1-Dichloroethene	0.022	9.3	0.088	37
1,1-Dichloroethane	0.045	Not Detected	0.18	Not Detected
cis-1,2-Dichloroethene	0.045	Not Detected	0.18	Not Detected
1,1,1-Trichloroethane	0.045	2.4	0.24	13
Trichloroethene	0.045	1.4	0.24	7.7

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	97	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-06-022406

Lab ID#: 0602635-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030707**	**Date of Collection: 2/24/06**	
Dil. Factor:	**1.79**	**Date of Analysis: 3/7/06 04:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	13	0.071	53
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	3.6	0.20	19
Trichloroethene	0.036	0.95	0.19	5.1

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	90	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-06-022406 Duplicate

Lab ID#: 0602635-03AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030708**	**Date of Collection: 2/24/06**	
Dil. Factor:	**1.79**	**Date of Analysis: 3/7/06 05:11 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	13	0.071	52
1,1-Dichloroethane	0.036	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	3.6	0.20	20
Trichloroethene	0.036	0.96	0.19	5.2

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	93	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-01-022406

Lab ID#: 0602635-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030709**	**Date of Collection: 2/24/06**	
Dil. Factor:	**1.61**	**Date of Analysis: 3/7/06 05:49 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	0.91	0.064	3.6
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	0.99	0.18	5.4
Trichloroethene	0.032	7.4	0.17	40

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	94	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-02-022406

Lab ID#: 0602635-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030710**	**Date of Collection:**	**2/24/06**
Dil. Factor:	**1.68**	**Date of Analysis:**	**3/7/06 06:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	0.077	0.067	0.30
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	0.079	0.18	0.43
Trichloroethene	0.034	0.46	0.18	2.5

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-03B-DUP-022406

Lab ID#: 0602635-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030711**	**Date of Collection:**	**2/24/06**
Dil. Factor:	**1.68**	**Date of Analysis:**	**3/7/06 07:11 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	0.018	0.067	0.070
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	0.073	0.18	0.40
Trichloroethene	0.034	0.26	0.18	1.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	94	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-03B-022406

Lab ID#: 0602635-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030712**	**Date of Collection: 2/24/06**	
Dil. Factor:	**1.68**	**Date of Analysis: 3/7/06 07:53 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.017	Not Detected	0.043	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.067	Not Detected
1,1-Dichloroethane	0.034	Not Detected	0.14	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.034	0.070	0.18	0.38
Trichloroethene	0.034	0.26	0.18	1.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	92	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-03A-022406

Lab ID#: 0602635-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030713**	**Date of Collection: 2/24/06**	
Dil. Factor:	**1.58**	**Date of Analysis: 3/7/06 08:39 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	0.016	0.063	0.065
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.032	0.076	0.17	0.42
Trichloroethene	0.032	0.55	0.17	2.9

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	94	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-07-022406

Lab ID#: 0602635-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**60307141**	**Date of Collection:**	**2/24/06**
Dil. Factor:	**2.06**	**Date of Analysis:**	**3/7/06 09:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.021	Not Detected	0.053	Not Detected
1,1-Dichloroethene	0.021	Not Detected	0.082	Not Detected
1,1-Dichloroethane	0.041	Not Detected	0.17	Not Detected
cis-1,2-Dichloroethene	0.041	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.041	Not Detected	0.22	Not Detected
Trichloroethene	0.041	0.080	0.22	0.43

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	92	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-07-022406 Duplicate

Lab ID#: 0602635-09AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**60307r18**	**Date of Collection:**	**2/24/06**
Dil. Factor:	**2.06**	**Date of Analysis:**	**3/8/06 07:50 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.021	Not Detected	0.053	Not Detected
1,1-Dichloroethene	0.021	Not Detected	0.082	Not Detected
1,1-Dichloroethane	0.041	Not Detected	0.17	Not Detected
cis-1,2-Dichloroethene	0.041	Not Detected	0.16	Not Detected
1,1,1-Trichloroethane	0.041	Not Detected	0.22	Not Detected
Trichloroethene	0.041	0.083	0.22	0.45

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	88	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-DW-022406

Lab ID#: 0602635-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030716**	**Date of Collection:**	**2/24/06**
Dil. Factor:	**1.61**	**Date of Analysis:**	**3/7/06 10:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.18	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	89	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-IAQ-VW-022406

Lab ID#: 0602635-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030717**	**Date of Collection:**	**2/24/06**
Dil. Factor:	**1.52**	**Date of Analysis:**	**3/7/06 11:30 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.015	Not Detected	0.039	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.060	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.030	Not Detected	0.16	Not Detected
Trichloroethene	0.030	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	*Method* Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	94	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0602635-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030704a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/06 01:20 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	*Method* Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	90	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0602635-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/06 11:47 AM**	

Compound	%Recovery
Vinyl Chloride	110
1,1-Dichloroethene	92
1,1-Dichloroethane	96
cis-1,2-Dichloroethene	88
1,1,1-Trichloroethane	102
Trichloroethene	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	94	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0602635-14A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6030703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/06 12:26 PM**	

Compound	%Recovery
Vinyl Chloride	92
1,1-Dichloroethene	86
1,1-Dichloroethane	91
cis-1,2-Dichloroethene	89
1,1,1-Trichloroethane	98
Trichloroethene	93

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0602660A

Work Order Summary

CLIENT:	Ms. Diane Wisbeck Arcadis G&M, Inc. 1114 Benfield Blvd., Suite A Millersville, MD 21108	**BILL TO:**	Mr. Christopher Sharpe Arcadis G&M, Inc. 6 Terry Dr., Suite 300 Newtown, PA 18940
PHONE:	410-987-0032	**P.O. #**	
FAX:	410-987-4392	**PROJECT #**	NP597.6 AH Bally
DATE RECEIVED:	02/28/2006	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/13/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
02A	BAL-SV-07-022706	Modified TO-15	3.0 "Hg
03A	BAL-SV-04B-022706	Modified TO-15	3.0 "Hg
04A	Lab Blank	Modified TO-15	NA
05A	CCV	Modified TO-15	NA
06A	LCS	Modified TO-15	NA

CERTIFIED BY: Linda A. Freeman DATE: 03/13/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
Arcadis Geraghty & Miller
Workorder# 0602660A

Two 6 Liter Summa Canister (100% Certified) samples were received on February 28, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
Daily CCV	+- 30% Difference	</= 30% Difference with two allowed out up to </=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BAL-SV-07-022706

Lab ID#: 0602660A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	74	26000	300	100000
1,1,1-Trichloroethane	74	9300	410	51000
Trichloroethene	74	9000	400	48000

Client Sample ID: BAL-SV-04B-022706

Lab ID#: 0602660A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	150	39000	800	210000

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Client Sample ID: BAL-SV-07-022706

Lab ID#: 0602660A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**i030921**	**Date of Collection:**	**2/27/06**
Dil. Factor:	**149**	**Date of Analysis:**	**3/10/06 09:14 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	74	Not Detected	190	Not Detected
1,1-Dichloroethene	74	26000	300	100000
1,1-Dichloroethane	74	Not Detected	300	Not Detected
cis-1,2-Dichloroethene	74	Not Detected	300	Not Detected
1,1,1-Trichloroethane	74	9300	410	51000
Trichloroethene	74	9000	400	48000

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	94	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-SV-04B-022706

Lab ID#: 0602660A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**i030922**	**Date of Collection:**	**2/27/06**
Dil. Factor:	**298**	**Date of Analysis:**	**3/10/06 10:05 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	150	Not Detected	380	Not Detected
1,1-Dichloroethene	150	Not Detected	590	Not Detected
1,1-Dichloroethane	150	Not Detected	600	Not Detected
cis-1,2-Dichloroethene	150	Not Detected	590	Not Detected
1,1,1-Trichloroethane	150	Not Detected	810	Not Detected
Trichloroethene	150	39000	800	210000

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: Lab Blank

Lab ID#: 0602660A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**i030915**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/9/06 07:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: CCV

Lab ID#: 0602660A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**i030909**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/9/06 02:04 PM**	

Compound	%Recovery
Vinyl Chloride	72
1,1-Dichloroethene	87
1,1-Dichloroethane	87
cis-1,2-Dichloroethene	88
1,1,1-Trichloroethane	89
Trichloroethene	83

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: LCS

Lab ID#: 0602660A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**i030912**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/9/06 04:27 PM**	

Compound	%Recovery
Vinyl Chloride	74
1,1-Dichloroethene	89
1,1-Dichloroethane	89
cis-1,2-Dichloroethene	91
1,1,1-Trichloroethane	96
Trichloroethene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	104	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0602660B

Work Order Summary

CLIENT:	Ms. Diane Wisbeck Arcadis G&M, Inc. 1114 Benfield Blvd., Suite A Millersville, MD 21108	**BILL TO:**	Mr. Christopher Sharpe Arcadis G&M, Inc. 6 Terry Dr., Suite 300 Newtown, PA 18940
PHONE:	410-987-0032	**P.O. #**	
FAX:	410-987-4392	**PROJECT #**	NP597.6 AH Bally
DATE RECEIVED:	02/28/2006	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/12/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	BAL-SV-06-022706	Modified TO-15	1.5 "Hg
02A	Lab Blank	Modified TO-15	NA
03A	CCV	Modified TO-15	NA
04A	LCS	Modified TO-15	NA

CERTIFIED BY: Linda D. Fruman DATE: 03/13/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 Low Level
Arcadis Geraghty & Miller
Workorder# 0602660B

One 6 Liter Summa Canister (100% Certified) sample was received on February 28, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
ICAL %RSD acceptance criteria	+- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	</= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BAL-SV-06-022706

Lab ID#: 0602660B-01A

No Detections Were Found.

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-SV-06-022706

Lab ID#: 0602660B-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7030711**	**Date of Collection:**	**2/27/06**
Dil. Factor:	**1.41**	**Date of Analysis:**	**3/7/06 06:27 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.14	Not Detected	0.36	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.56	Not Detected
1,1-Dichloroethane	0.14	Not Detected	0.57	Not Detected
cis-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
1,1,1-Trichloroethane	0.14	Not Detected	0.77	Not Detected
Trichloroethene	0.14	Not Detected	0.76	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0602660B-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7030705**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/06 01:33 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: CCV

Lab ID#: 0602660B-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7030702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/06 10:20 AM**	

Compound	%Recovery
Vinyl Chloride	104
1,1-Dichloroethene	100
1,1-Dichloroethane	104
cis-1,2-Dichloroethene	103
1,1,1-Trichloroethane	103
Trichloroethene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0602660B-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7030703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/7/06 11:34 AM**	

Compound	%Recovery
Vinyl Chloride	106
1,1-Dichloroethene	100
1,1-Dichloroethane	105
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	107
Trichloroethene	107

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130

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WORK ORDER #: 0603026

Work Order Summary

CLIENT:	Ms. Diane Wisbeck Arcadis G&M, Inc. 1114 Benfield Blvd., Suite A Millersville, MD 21108	**BILL TO:**	Mr. Christopher Sharpe Arcadis G&M, Inc. 6 Terry Dr., Suite 300 Newtown, PA 18940
PHONE:	410-987-0032	**P.O. #**	
FAX:	410-987-4392	**PROJECT #**	NP597.6 AH Bally
DATE RECEIVED:	03/01/2006	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/14/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	BAL-SV-08-022806	Modified TO-15	2.5 "Hg
02A	BAL-SV-05-022806	Modified TO-15	4.5 "Hg
03A	BAL-SV-50-022806	Modified TO-15	3.5 "Hg
04A	BAL-SV-010-022806	Modified TO-15	4.0 "Hg
05A	BAL-SV-03B-022806	Modified TO-15	2.0 "Hg
06A	Lab Blank	Modified TO-15	NA
07A	CCV	Modified TO-15	NA
08A	LCS	Modified TO-15	NA

CERTIFIED BY: _____ DATE: 03/14/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
Arcadis Geraghty & Miller
Workorder# 0603026

Five 6 Liter Summa Canister (100% Certified) samples were received on March 01, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
ICAL %RSD acceptance criteria	+- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	</= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BAL-SV-08-022806

Lab ID#: 0603026-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.15	1.7	0.78	9.1

Client Sample ID: BAL-SV-05-022806

Lab ID#: 0603026-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	1.6	140	6.3	580
1,1,1-Trichloroethane	1.6	4.0	8.6	22
Trichloroethene	1.6	490	8.5	2600

Client Sample ID: BAL-SV-50-022806

Lab ID#: 0603026-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	1.5	150	6.0	590
1,1,1-Trichloroethane	1.5	4.2	8.3	23
Trichloroethene	1.5	490	8.2	2600

Client Sample ID: BAL-SV-010-022806

Lab ID#: 0603026-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethane	1.0	2.2	4.2	9.0
cis-1,2-Dichloroethene	1.0	190	4.1	740
1,1,1-Trichloroethane	1.0	68	5.6	370
Trichloroethene	1.0	92	5.5	490

Client Sample ID: BAL-SV-03B-022806

Lab ID#: 0603026-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	2.4	790	13	4200

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Client Sample ID: BAL-SV-08-022806

Lab ID#: 0603026-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031205**	**Date of Collection:**	**2/28/06**
Dil. Factor:	**1.46**	**Date of Analysis:**	**3/13/06 02:05 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.15	Not Detected	0.37	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.58	Not Detected
1,1-Dichloroethane	0.15	Not Detected	0.59	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.58	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.80	Not Detected
Trichloroethene	0.15	1.7	0.78	9.1

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-SV-05-022806

Lab ID#: 0603026-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031207**	**Date of Collection:**	**2/28/06**
Dil. Factor:	**15.8**	**Date of Analysis:**	**3/13/06 03:43 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	1.6	Not Detected	4.0	Not Detected
1,1-Dichloroethene	1.6	140	6.3	580
1,1-Dichloroethane	1.6	Not Detected	6.4	Not Detected
cis-1,2-Dichloroethene	1.6	Not Detected	6.3	Not Detected
1,1,1-Trichloroethane	1.6	4.0	8.6	22
Trichloroethene	1.6	490	8.5	2600

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-SV-50-022806

Lab ID#: 0603026-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031208**	**Date of Collection: 2/28/06**	
Dil. Factor:	**15.2**	**Date of Analysis: 3/13/06 04:26 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	1.5	Not Detected	3.9	Not Detected
1,1-Dichloroethene	1.5	150	6.0	590
1,1-Dichloroethane	1.5	Not Detected	6.2	Not Detected
cis-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
1,1,1-Trichloroethane	1.5	4.2	8.3	23
Trichloroethene	1.5	490	8.2	2600

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-SV-010-022806

Lab ID#: 0603026-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031209**	**Date of Collection: 2/28/06**	
Dil. Factor:	**10.3**	**Date of Analysis: 3/13/06 05:10 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.0	2.2	4.2	9.0
cis-1,2-Dichloroethene	1.0	190	4.1	740
1,1,1-Trichloroethane	1.0	68	5.6	370
Trichloroethene	1.0	92	5.5	490

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-SV-03B-022806

Lab ID#: 0603026-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031210**	**Date of Collection: 2/28/06**	
Dil. Factor:	**24.0**	**Date of Analysis: 3/13/06 06:04 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	2.4	Not Detected	6.1	Not Detected
1,1-Dichloroethene	2.4	Not Detected	9.5	Not Detected
1,1-Dichloroethane	2.4	Not Detected	9.7	Not Detected
cis-1,2-Dichloroethene	2.4	Not Detected	9.5	Not Detected
1,1,1-Trichloroethane	2.4	Not Detected	13	Not Detected
Trichloroethene	2.4	790	13	4200

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0603026-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031204a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/06 01:10 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	102	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0603026-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/12/06 11:23 PM**	

Compound	%Recovery
Vinyl Chloride	106
1,1-Dichloroethene	105
1,1-Dichloroethane	108
cis-1,2-Dichloroethene	106
1,1,1-Trichloroethane	118
Trichloroethene	106

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0603026-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/06 12:03 AM**	

Compound	%Recovery
Vinyl Chloride	104
1,1-Dichloroethene	103
1,1-Dichloroethane	108
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	119
Trichloroethene	109

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0603058A

Work Order Summary

CLIENT:	Ms. Diane Wisbeck Arcadis G&M, Inc. 1114 Benfield Blvd., Suite A Millersville, MD 21108	**BILL TO:**	Mr. Christopher Sharpe Arcadis G&M, Inc. 6 Terry Dr., Suite 300 Newtown, PA 18940
PHONE:	410-987-0032	**P.O. #**	
FAX:	410-987-4392	**PROJECT #**	NP597.6 AH Bally
DATE RECEIVED:	03/02/2006	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/15/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
02A	BAL-SV-09-030106	Modified TO-15	1.0 "Hg
03A	Lab Blank	Modified TO-15	NA
04A	CCV	Modified TO-15	NA
05A	LCS	Modified TO-15	NA

CERTIFIED BY: _____ DATE: 03/15/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
Arcadis Geraghty & Miller
Workorder# 0603058A

One 6 Liter Summa Canister (100% Certified) sample was received on March 02, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
ICAL %RSD acceptance criteria	+- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	</= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BAL-SV-09-030106

Lab ID#: 0603058A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,1-Trichloroethane	0.14	0.14	0.76	0.78
Trichloroethene	0.14	2.1	0.75	11

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Client Sample ID: BAL-SV-09-030106

Lab ID#: 0603058A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031211**	**Date of Collection: 3/1/06**	
Dil. Factor:	**1.39**	**Date of Analysis: 3/13/06 07:11 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.14	Not Detected	0.36	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.55	Not Detected
1,1-Dichloroethane	0.14	Not Detected	0.56	Not Detected
cis-1,2-Dichloroethene	0.14	Not Detected	0.55	Not Detected
1,1,1-Trichloroethane	0.14	0.14	0.76	0.78
Trichloroethene	0.14	2.1	0.75	11

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0603058A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/06 01:10 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	102	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0603058A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/12/06 11:23 PM**	

Compound	%Recovery
Vinyl Chloride	106
1,1-Dichloroethene	105
1,1-Dichloroethane	108
cis-1,2-Dichloroethene	106
1,1,1-Trichloroethane	118
Trichloroethene	106

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0603058A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7031203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/06 12:03 AM**	

Compound	%Recovery
Vinyl Chloride	104
1,1-Dichloroethene	103
1,1-Dichloroethane	108
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	119
Trichloroethene	109

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0603058B

Work Order Summary

CLIENT:	Ms. Diane Wisbeck Arcadis G&M, Inc. 1114 Benfield Blvd., Suite A Millersville, MD 21108	**BILL TO:**	Mr. Christopher Sharpe Arcadis G&M, Inc. 6 Terry Dr., Suite 300 Newtown, PA 18940
PHONE:	410-987-0032	**P.O. #**	
FAX:	410-987-4392	**PROJECT #**	NP597.6 AH Bally
DATE RECEIVED:	03/02/2006	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	03/15/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	BAL-SV-11-030106	Modified TO-15	2.5 "Hg
02A	Lab Blank	Modified TO-15	NA
03A	CCV	Modified TO-15	NA
04A	LCS	Modified TO-15	NA

CERTIFIED BY: Linda S. Truman DATE: 03/15/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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AR100903

LABORATORY NARRATIVE
Modified TO-15
Arcadis Geraghty & Miller
Workorder# 0603058B

One 6 Liter Summa Canister (100% Certified) sample was received on March 02, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
Daily CCV	+- 30% Difference	</= 30% Difference with two allowed out up to </=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BAL-SV-11-030106

Lab ID#: 0603058B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	73	9500	290	38000
1,1,1-Trichloroethane	73	5000	400	27000
Trichloroethene	73	20000	390	110000

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: BAL-SV-11-030106

Lab ID#: 0603058B-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**i031426**	**Date of Collection: 3/1/06**	
Dil. Factor:	**146**	**Date of Analysis: 3/15/06 12:07 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	73	Not Detected	190	Not Detected
1,1-Dichloroethene	73	9500	290	38000
1,1-Dichloroethane	73	Not Detected	300	Not Detected
cis-1,2-Dichloroethene	73	Not Detected	290	Not Detected
1,1,1-Trichloroethane	73	5000	400	27000
Trichloroethene	73	20000	390	110000

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	109	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0603058B-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**i031409**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/14/06 05:28 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	106	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0603058B-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**i031406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/14/06 02:58 PM**	

Compound	%Recovery
Vinyl Chloride	73
1,1-Dichloroethene	86
1,1-Dichloroethane	86
cis-1,2-Dichloroethene	87
1,1,1-Trichloroethane	88
Trichloroethene	81

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	107	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0603058B-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**i031407**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/14/06 03:44 PM**	

Compound	%Recovery
Vinyl Chloride	81
1,1-Dichloroethene	101
1,1-Dichloroethane	101
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	102
Trichloroethene	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	106	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0610306

Work Order Summary

CLIENT:	Ms. Diane Wisbeck Arcadis G&M, Inc. 1114 Benfield Blvd., Suite A Millersville, MD 21108	**BILL TO:**	Mr. Christopher Sharpe Arcadis G&M, Inc. 6 Terry Dr., Suite 300 Newtown, PA 18940
PHONE:	410-987-0032	**P.O. #**	NP000597.0006
FAX:	410-987-4392	**PROJECT #**	NP000597.0006.00004 AH Bally
DATE RECEIVED:	10/16/2006	**CONTACT:**	Kelly Buettner
DATE COMPLETED:			

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	IA-A-1-101206	Modified TO-15	5.0 "Hg
02A	IA-A-3-101206	Modified TO-15	2.5 "Hg
03A	Lab Blank	Modified TO-15	NA
04A	CCV	Modified TO-15	NA
05A	LCS	Modified TO-15	NA

CERTIFIED BY: Linda D. Fruman DATE: 10/24/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
Arcadis Geraghty & Miller
Workorder# 0610306

Two 6 Liter Summa Canister (100% Certified) samples were received on October 16, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
ICAL %RSD acceptance criteria	+- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	</= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

Receiving Notes

The Chain of Custody (COC) information for sample IA-A-1-101206 and IA-A-3-101206 did not match the information on the canisters with regard to canister identification. The client was notified of the discrepancy and the information on the canisters was used to process and report the samples.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: IA-A-1-101206

Lab ID#: 0610306-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.16	11	0.64	43
1,1,1-Trichloroethane	0.16	8.2	0.88	44
Trichloroethene	0.16	53	0.86	280

Client Sample ID: IA-A-3-101206

Lab ID#: 0610306-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.29	38	1.2	150
1,1,1-Trichloroethane	0.29	31	1.6	170
Trichloroethene	0.29	91	1.6	490

Air Toxics LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-A-1-101206

Lab ID#: 0610306-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a102306**	**Date of Collection:**	**10/12/06**
Dil Factor:	**1.61**	**Date of Analysis:**	**10/23/06 06:35 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,1-Dichloroethene	0.16	11	0.64	43
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
1,1,1-Trichloroethane	0.16	8.2	0.88	44
Trichloroethene	0.16	53	0.86	280

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	110	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-A-3-101206

Lab ID#: 0610306-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a102309**	**Date of Collection: 10/12/06**	
Dil. Factor:	**2.92**	**Date of Analysis: 10/23/06 08:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.29	Not Detected	0.75	Not Detected
1,1-Dichloroethene	0.29	38	1.2	150
1,1-Dichloroethane	0.29	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.29	Not Detected	1.2	Not Detected
1,1,1-Trichloroethane	0.29	31	1.6	170
Trichloroethene	0.29	91	1.6	490

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	110	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0610306-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a102305**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/23/06 05:41 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0610306-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a102302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/23/06 02:55 PM**	

Compound	%Recovery
Vinyl Chloride	108
1,1-Dichloroethene	105
1,1-Dichloroethane	100
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	97
Trichloroethene	108

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	102	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0610306-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a102304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/23/06 04:49 PM**	

Compound	%Recovery
Vinyl Chloride	96
1,1-Dichloroethene	91
1,1-Dichloroethane	97
cis-1,2-Dichloroethene	101
1,1,1-Trichloroethane	89
Trichloroethene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	110	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0609029A

Work Order Summary

CLIENT:	Ms. Diane Wisbeck Arcadis G&M, Inc. 1114 Benfield Blvd., Suite A Millersville, MD 21108	**BILL TO:**	Mr. Christopher Sharpe Arcadis G&M, Inc. 6 Terry Dr., Suite 300 Newtown, PA 18940
PHONE:	410-987-0032	**P.O. #**	
FAX:	410-987-4392	**PROJECT #**	NP597.6 AH Bally Bally
DATE RECEIVED:	09/01/2006	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/21/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	AA-West	Modified TO-15 SIM	5.0 "Hg
02A	AA-East	Modified TO-15 SIM	5.5 "Hg
03A	IA-A-1	Modified TO-15 SIM	4.0 "Hg
04A	IA-A-2	Modified TO-15 SIM	4.5 "Hg
05A	IA-A-4	Modified TO-15 SIM	4.5 "Hg
06A	IA-A-6	Modified TO-15 SIM	5.0 "Hg
07A	IA-A-5	Modified TO-15 SIM	3.0 "Hg
07AA	IA-A-5 Duplicate	Modified TO-15 SIM	3.0 "Hg
14A(cancelled)	IA-A-1 (dup)	Modified TO-15 SIM	0.0 "Hg
15A	Lab Blank	Modified TO-15 SIM	NA
16A	CCV	Modified TO-15 SIM	NA
17A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY: Linda A. Truman DATE: 09/15/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 SIM
Arcadis Geraghty & Miller
Workorder# 0609029A

Eight 6 Liter Summa Canister (SIM Certified) samples were received on September 01, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Sample IA-A-1 (dup) arrived at ambient pressure yet a flow controller was used for sample collection. The client was notified and the analysis was cancelled.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: AA-West

Lab ID#: 0609029A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.016	0.019	0.064	0.075
1,1,1-Trichloroethane	0.032	0.050	0.18	0.27
Trichloroethene	0.032	0.036	0.17	0.19

Client Sample ID: AA-East

Lab ID#: 0609029A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.016	0.029	0.065	0.12
1,1,1-Trichloroethane	0.033	0.061	0.18	0.33
Trichloroethene	0.033	0.051	0.18	0.27

Client Sample ID: IA-A-1

Lab ID#: 0609029A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.022	16	0.088	62
cis-1,2-Dichloroethene	0.044	0.045	0.18	0.18
1,1,1-Trichloroethane	0.044	19	0.24	100
Trichloroethene	0.044	33	0.24	180

Client Sample ID: IA-A-2

Lab ID#: 0609029A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.016	0.32	0.063	1.3
1,1,1-Trichloroethane	0.032	0.28	0.17	1.6
Trichloroethene	0.032	0.71	0.17	3.8

Client Sample ID: IA-A-4

Lab ID#: 0609029A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.016	0.018	0.063	0.070

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: IA-A-4

Lab ID#: 0609029A-05A

1,1,1-Trichloroethane	0.032	0.056	0.17	0.30
Trichloroethene	0.032	0.066	0.17	0.35

Client Sample ID: IA-A-6

Lab ID#: 0609029A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.016	0.83	0.064	3.3
1,1,1-Trichloroethane	0.032	0.42	0.18	2.3
Trichloroethene	0.032	0.19	0.17	1.0

Client Sample ID: IA-A-5

Lab ID#: 0609029A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.015	4.9	0.059	19
1,1,1-Trichloroethane	0.030	1.8	0.16	9.6
Trichloroethene	0.030	1.4	0.16	7.4

Client Sample ID: IA-A-5 Duplicate

Lab ID#: 0609029A-07AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.015	5.8	0.059	23
1,1,1-Trichloroethane	0.030	1.8	0.16	9.6
Trichloroethene	0.030	1.4	0.16	7.4

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Client Sample ID: AA-West

Lab ID#: 0609029A-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090714**	**Date of Collection:**	**8/28/06**
Dil. Factor:	**1.61**	**Date of Analysis:**	**9/7/06 09:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	0.019	0.064	0.075
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	0.050	0.18	0.27
Trichloroethene	0.032	0.036	0.17	0.19

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	128	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	114	70-130

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Client Sample ID: AA-East

Lab ID#: 0609029A-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090715**	**Date of Collection: 8/28/06**	
Dil. Factor:	**1.64**	**Date of Analysis: 9/7/06 10:43 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.016	0.029	0.065	0.12
1,1-Dichloroethane	0.033	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.033	0.061	0.18	0.33
Trichloroethene	0.033	0.051	0.18	0.27

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	115	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-A-1

Lab ID#: 0609029A-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090718**	**Date of Collection:**	**8/28/06**
Dil. Factor:	**2.21**	**Date of Analysis:**	**9/8/06 01:51 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.022	Not Detected	0.056	Not Detected
1,1-Dichloroethene	0.022	16	0.088	62
1,1-Dichloroethane	0.044	Not Detected	0.18	Not Detected
cis-1,2-Dichloroethene	0.044	0.045	0.18	0.18
1,1,1-Trichloroethane	0.044	19	0.24	100
Trichloroethene	0.044	33	0.24	180

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	113	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-A-2

Lab ID#: 0609029A-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090719**	**Date of Collection:**	**8/28/06**
Dil. Factor:	**1.58**	**Date of Analysis:**	**9/8/06 02:39 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	0.32	0.063	1.3
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.032	0.28	0.17	1.6
Trichloroethene	0.032	0.71	0.17	3.8

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	108	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-A-4

Lab ID#: 0609029A-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090720**	**Date of Collection:**	**8/28/06**
Dil. Factor:	**1.58**	**Date of Analysis:**	**9/8/06 03:32 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	0.018	0.063	0.070
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.032	0.056	0.17	0.30
Trichloroethene	0.032	0.066	0.17	0.35

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	108	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-A-6

Lab ID#: 0609029A-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090721**	**Date of Collection:**	**8/28/06**
Dil. Factor:	**1.61**	**Date of Analysis:**	**9/8/06 04:15 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	0.83	0.064	3.3
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	0.42	0.18	2.3
Trichloroethene	0.032	0.19	0.17	1.0

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-A-5

Lab ID#: 0609029A-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090722**	**Date of Collection: 8/28/06**	
Dil. Factor:	**1.49**	**Date of Analysis: 9/8/06 05:10 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	4.9	0.059	19
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.030	1.8	0.16	9.6
Trichloroethene	0.030	1.4	0.16	7.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	106	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-A-5 Duplicate

Lab ID#: 0609029A-07AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090723**	**Date of Collection:**	**8/28/06**
Dil. Factor:	**1.49**	**Date of Analysis:**	**9/8/06 05:55 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	5.8	0.059	23
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.030	1.8	0.16	9.6
Trichloroethene	0.030	1.4	0.16	7.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	112	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0609029A-15A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/7/06 11:25 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0609029A-16A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/7/06 09:34 AM**	

Compound	%Recovery
Vinyl Chloride	85
1,1-Dichloroethene	91
1,1-Dichloroethane	96
cis-1,2-Dichloroethene	90
1,1,1-Trichloroethane	105
Trichloroethene	84

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0609029A-17A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6090703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/7/06 10:12 AM**	

Compound	%Recovery
Vinyl Chloride	78
1,1-Dichloroethene	89
1,1-Dichloroethane	101
cis-1,2-Dichloroethene	88
1,1,1-Trichloroethane	109
Trichloroethene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130

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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

AR100937

Contact Person: Christopher Sharpe
Company: ARCADIS Email: csharpe@arcadis-us.com
Address: 6 Terry Dr. Suite 300 City: Newtown State: PA Zip: 18940
Phone: 267-685-1800 Fax: 267-685-1801
Collected by: (Signature) Abigail Faulkner

Project Info:
P.O. #:
Project #: NP597.6 AH Bally
Project Name: Bally

Turn Around Time:
☐ Normal
☐ Rush
specify

Lab Use Only:
Pressurized by: KB
Date: 9/2/06
Pressurization Gas: (N2) He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt (psi)	Final (psi)
01A	AA - ~~Bend~~ West	33945	8/28/06	2125	Modified TO-15			5.0"Hg	5.0"
02A	AA - ~~Bend~~ East	22500	8/28/06	2010	Modified TO-15	-30"	-4.5"	5.5"Hg	
03A	IA-A-1	13~~7~~80	8/28/06	2100		>-30"	-5.0"	4.0"Hg	
04A	IA-A-2	35142	8/28/06	2210		-30"	-6.5"	4.5"Hg	
05A	IA-A-4	33987	8/28/06	2000		-30"	-5.5"	4.5"Hg	
06A	IA-A-~~5~~6	85	8/28/06	~~2010~~		-30"	-5.0"	5.0"Hg	
07A	IA-A-~~6~~5	33938	8/28/06	1830		-30"	-5.0"	3.0"Hg	
~~08A~~	SS-A-1	13671	8/30/06	1222		-30"	-1.5"		
~~09A~~	SS-A-2	31133	8/30/06	1028		-30"	-2"		
~~10A~~	SS-A-3	34121	8/30/06	1635					

9/2/06

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	Notes:
Abigail Faulkner	8/31/06 1030			
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	Tonya Bischof AIR 9/1/06 855

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	FedEx	7921 9615 8133	NA	Good	(Yes) No None	060902 9A

Form 1293 rev.10

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

AR100938

Contact Person: Christopher Sharpe
Company: ARCADIS Email: csharpe@arcadis-us.com
Address: 6 Terry Dr Suite 300 City: Newtown State: PA Zip: 18940
Phone: 267-685-1800 Fax: 267-685-1801
Collected by: (Signature) Abigail Faulkner

Project Info:
P.O. #:
Project #: NP597.6 AH Bally
Project Name: Bally

Turn Around Time:
☐ Normal
☐ Rush
specify

Lab Use Only
Pressurized by: AF
Date: 8/31/06
Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt Final (psig)
HA	SS-A-4	2446	8/29/06	1100	Modified TO-15	-30"	-2"	
HA	SS-A-5	4064	8/29/06	1326		-30"	-1"	
HA	SS-A-6	10781	8/29/06	1620		-30"	-7"	
HA	IA-A-1 (dup)	9567	8/28/06	2100		-30"	-5.0"	0.0
HA	SS-A-1 (dup)	1577	8/30/06	1222		-30"	-1.0"	

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	Notes:
Abigail Faulkner	8/31/06 1030			
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	Tonya Bartel ATL 9/1/06 855

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	0609094

Form 1295 rev.10

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0609029B

Work Order Summary

CLIENT:	Ms. Diane Wisbeck Arcadis G&M, Inc. 1114 Benfield Blvd., Suite A Millersville, MD 21108	**BILL TO:**	Mr. Christopher Sharpe Arcadis G&M, Inc. 6 Terry Dr., Suite 300 Newtown, PA 18940
PHONE:	410-987-0032	**P.O. #**	
FAX:	410-987-4392	**PROJECT #**	NP597.6 AH Bally Bally
DATE RECEIVED:	09/01/2006	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/15/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
09A	SS-A-2	Modified TO-15	0.5 "Hg
10A	SS-A-3	Modified TO-15	0.5 "Hg
10AA	SS-A-3 Duplicate	Modified TO-15	0.5 "Hg
11A	SS-A-4	Modified TO-15	1.5 "Hg
13A	SS-A-6	Modified TO-15	1.0 "Hg
14A	Lab Blank	Modified TO-15	NA
15A	CCV	Modified TO-15	NA
16A	LCS	Modified TO-15	NA

CERTIFIED BY: Linda D. Truman DATE: 09/15/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
Arcadis Geraghty & Miller
Workorder# 0609029B

Four 6 Liter Summa Canister (100% Certified) samples were received on September 01, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
ICAL %RSD acceptance criteria	+- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	</= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The recovery of surrogate 1,2-Dichloroethane-d4 in samples SS-A-2 and SS-A-6 was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS-A-2

Lab ID#: 0609029B-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.27	1.5	1.1	6.0
1,1-Dichloroethane	0.27	0.62	1.1	2.5
cis-1,2-Dichloroethene	0.27	51	1.1	200
1,1,1-Trichloroethane	0.27	19	1.5	100
Trichloroethene	0.27	66	1.5	350

Client Sample ID: SS-A-3

Lab ID#: 0609029B-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	2.7	61	11	240
1,1,1-Trichloroethane	2.7	3.9	15	21
Trichloroethene	2.7	560	15	3000

Client Sample ID: SS-A-3 Duplicate

Lab ID#: 0609029B-10AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	2.7	60	11	240
1,1,1-Trichloroethane	2.7	3.8	15	21
Trichloroethene	2.7	570	15	3100

Client Sample ID: SS-A-4

Lab ID#: 0609029B-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.14	0.85	0.76	4.6

Client Sample ID: SS-A-6

Lab ID#: 0609029B-13A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	0.14	0.21	0.55	0.84
1,1,1-Trichloroethane	0.14	0.94	0.76	5.1

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS-A-6

Lab ID#: 0609029B-13A

Trichloroethene	0.14	0.70	0.75	3.8

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Client Sample ID: SS-A-2

Lab ID#: 0609029B-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7090518**	**Date of Collection: 8/30/06**	
Dil. Factor:	**2.72**	**Date of Analysis: 9/6/06 12:51 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.27	Not Detected	0.70	Not Detected
1,1-Dichloroethene	0.27	1.5	1.1	6.0
1,1-Dichloroethane	0.27	0.62	1.1	2.5
cis-1,2-Dichloroethene	0.27	51	1.1	200
1,1,1-Trichloroethane	0.27	19	1.5	100
Trichloroethene	0.27	66	1.5	350

Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	154 Q	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: SS-A-3

Lab ID#: 0609029B-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7090519**	**Date of Collection:**	**8/30/06**
Dil. Factor:	**27.2**	**Date of Analysis:**	**9/6/06 01:40 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	2.7	Not Detected	7.0	Not Detected
1,1-Dichloroethene	2.7	61	11	240
1,1-Dichloroethane	2.7	Not Detected	11	Not Detected
cis-1,2-Dichloroethene	2.7	Not Detected	11	Not Detected
1,1,1-Trichloroethane	2.7	3.9	15	21
Trichloroethene	2.7	560	15	3000

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: SS-A-3 Duplicate

Lab ID#: 0609029B-10AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7090520**	**Date of Collection:**	**8/30/06**
Dil. Factor:	**27.2**	**Date of Analysis:**	**9/6/06 02:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	2.7	Not Detected	7.0	Not Detected
1,1-Dichloroethene	2.7	60	11	240
1,1-Dichloroethane	2.7	Not Detected	11	Not Detected
cis-1,2-Dichloroethene	2.7	Not Detected	11	Not Detected
1,1,1-Trichloroethane	2.7	3.8	15	21
Trichloroethene	2.7	570	15	3100

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: SS-A-4

Lab ID#: 0609029B-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7090521**	**Date of Collection: 8/29/06**	
Dil. Factor:	**1.41**	**Date of Analysis: 9/6/06 03:08 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.14	Not Detected	0.36	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.56	Not Detected
1,1-Dichloroethane	0.14	Not Detected	0.57	Not Detected
cis-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
1,1,1-Trichloroethane	0.14	Not Detected	0.77	Not Detected
Trichloroethene	0.14	0.85	0.76	4.6

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SS-A-6

Lab ID#: 0609029B-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7090522**	**Date of Collection: 8/29/06**	
Dil. Factor:	**1.39**	**Date of Analysis: 9/6/06 03:47 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.14	Not Detected	0.36	Not Detected
1,1-Dichloroethene	0.14	0.21	0.55	0.84
1,1-Dichloroethane	0.14	Not Detected	0.56	Not Detected
cis-1,2-Dichloroethene	0.14	Not Detected	0.55	Not Detected
1,1,1-Trichloroethane	0.14	0.94	0.76	5.1
Trichloroethene	0.14	0.70	0.75	3.8

Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	171 Q	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	94	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0609029B-14A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7090510**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/5/06 05:26 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: CCV

Lab ID#: 0609029B-15A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7090504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/5/06 10:20 AM**	

Compound	%Recovery
Vinyl Chloride	112
1,1-Dichloroethene	109
1,1-Dichloroethane	111
cis-1,2-Dichloroethene	113
1,1,1-Trichloroethane	116
Trichloroethene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0609029B-16A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7090503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/5/06 09:40 AM**	

Compound	%Recovery
Vinyl Chloride	111
1,1-Dichloroethene	107
1,1-Dichloroethane	110
cis-1,2-Dichloroethene	104
1,1,1-Trichloroethane	110
Trichloroethene	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	97	70-130

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Page 1 of 2

Contact Person: Christopher Sharpe
Company: ARCADIS Email: csharpe@arcadis-us.com
Address: 6 Terry Dr. Suite 300 City: Newtown State: PA Zip: 18940
Phone: 267-685-1800 Fax: 267-685-1801
Collected by: (Signature) Abigail Faulkner

Project Info:
P.O. #
Project # NP597.6 AHBally
Project Name: Bally

Turn Around Time:
☐ Normal
☐ Rush
specify

Lab Use Only
Pressurized by: [illegible]
Date: 9/12/06
Pressurization Gas: (N2) He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
~~01A~~	AA - ~~[illegible]~~ West	33745	8/28/06	2125	Modified TO-15				
~~02A~~	AA - ~~[illegible]~~ East	22500	8/28/06	2010	Modified TO-15	-30"	-4.5"		
~~03A~~	IA-A-1	13[illegible]	8/28/06	2100	↓	>-30"	-5.0"		
~~04A~~	IA-A-2	35[illegible]	8/28/06	2210	↓	-30"	-6.5"		
~~05A~~	IA-A-4	33987	8/28/06	2000	↓	-30"	-5.5"		
~~06A~~	IA-A-~~[illegible]~~6	R5	8/28/06	~~[illegible]~~ 2030	↓	-30"	-5.0"	[illegible]	
~~07A~~	IA-A-~~[illegible]~~5	33938	8/28/06	1830	↓	-30"	-5.0"		
[illegible]	SS-A-1	13671	8/30/06	1222	↓	-30"	-1.5"	1.0"	5.0psi
[illegible]	SS-A-2	34133	8/30/06	1028	↓	-30"	-2"	[illegible]	
[illegible]	SS-A-3	34021	8/30/06	1635	↓			[illegible]	

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	Notes:
Abigail Faulkner 8/31/06 1030		
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time Tonya Bidol ATL 9/1/06 855	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx	7921 9615 8133	NA	Good	Yes No None	0609029B

Form 1293 rev. 10

@ AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

CHAIN-OF-CUSTODY RECORD

Contact Person: Christopher Sharpe
Company: ARCADIS Email: csharpe@arcadis-us.com
Address: 6 Terry Dr. Suite 300 City: Newtown State: PA Zip: 18940
Phone: 267-685-1800 Fax: 267-685-1801
Collected by: (Signature) Abigail Faulkner

Project Info:
P.O. #
Project # NP597.6 AHBally
Project Name: Bally

Turn Around Time:
☐ Normal
☐ Rush
specify

Lab Use Only
Pressurized by: BB
Date: 9/2/06
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final
11A	SS-A-4	2496	8/29/06	1100	Modified TO-15	-30"	-2"	15#	5#
12A	SS-A-5	4064	8/29/06	1326		-30"	-1"	15#	10#
13A	SS-A-6	10781	8/29/06	1620		-30"	-7"	15#	10#
14A	IA-A-1 (dup)	9567	8/28/06	2100		-30"	-5.0"	15#	10#
15A	SS-A-1 (dup)	1577	8/30/06	1222		-30"	-1.0"	15#	10#

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	Notes:
Abigail Faulkner	8/31/06 1030			
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time	Tonya Zadel ATL 9/1/06 855

Lab Use Only	Shipper Name	Air Bill#	Temp °C	Condition	Customer Seals Intact?	Work Order#
	FedEx		NA	Good	Yes No None	060802 96

Form 1293 rev.10

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Contact Person: Christopher Sharpe
Company: ARCADIS Email: csharpe@arcadis-us.com
Address: 6 Terry Dr. Suite 300 City: Newtown State: PA Zip: 18940
Phone: 267-685-1800 Fax: 267-685-1801
Collected by: (Signature) Abigail Faulkner

Project Info:
P.O. #
Project #: NP597.6 AttBally
Project Name: Bally

Turn Around Time:
☐ Normal
☐ Rush
specify

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final
[illegible]	AA-~~[illegible]~~ West	33745	8/28/06	2125	Modified TO-15				
[illegible]	AA-~~[illegible]~~ East	22500	8/28/06	2010	Modified TO-15	-30"	-4.5"		
[illegible]	IA-A-1	13[illegible]	8/28/06	2100	↓	>-30"	-5.0"		
[illegible]	IA-A-2	35[illegible]	8/28/06	2210		-30"	-6.5"		
[illegible]	IA-A-4	33[illegible]87	8/28/06	2000		-30"	-5.5		
[illegible]	IA-A-~~[illegible]~~6	85	8/28/06	~~[illegible]~~ 2010		-30"	-5.0"		
[illegible]	IA-A-~~[illegible]~~5	33938	8/28/06	1830		-30"	-5.0"		
[illegible]	SS-A-1	13671	8/30/06	1222		-30"	-1.5"		
[illegible]	SS-A-2	31133	8/30/06	1028		-30"	-2"		
[illegible]	SS-A-3	3[illegible]1	8/30/06	1635	↓				

mw 9/8

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	Notes:
Abigail Faulkner 8/31/06 1030		
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time Tony Bodal ATL 9/1/06 855	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx	792196158133	NA	Good	Yes No None	0609029B

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Contact Person: Christopher Sharpe
Company: ARCADIS Email: csharpe@arcadis-us.com
Address: 6 Terry Dr. Suite 300 City: Newtown State: PA Zip: 18940
Phone: 267-685-1800 Fax: 267-685-1801
Collected by: (Signature) [signature]

Project Info:
P.O. #
Project #: NP597.6 AH Bally
Project Name: Bally

Turn Around Time:
☐ Normal
☐ Rush
specify

Pressurized by:
Date:
Pressurization Gas: N2 He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final
	SS-A-4	24486	8/29/06	1100	Modified TO-15	-30"	-2"		
	SS-A-5	4464	8/29/06	1326	↓	-30"	-1"		
	SS-A-6	10781	8/29/06	1620	↓	-30"	-7"		
	IA-A-1 (dup)	9567	8/28/06	2100	↓	-30"	-5.0"		
	SS-A-1 (dup)	1577	8/30/06	1222	↓	-30"	-1.0"		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	Notes:
[signature] 8/31/06 1030		
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time Tony Badal ATL 9/1/06 855	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	0609023B

Form 1293 rev.11

AR1[illegible]9

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0609029C

Work Order Summary

CLIENT:	Ms. Diane Wisbeck Arcadis G&M, Inc. 1114 Benfield Blvd., Suite A Millersville, MD 21108	**BILL TO:**	Mr. Christopher Sharpe Arcadis G&M, Inc. 6 Terry Dr., Suite 300 Newtown, PA 18940
PHONE:	410-987-0032	**P.O. #**	
FAX:	410-987-4392	**PROJECT #**	NP597.6 AH Bally Bally
DATE RECEIVED:	09/01/2006	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/21/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
08A	SS-A-1	Modified TO-15	1.0 "Hg
12A	SS-A-5	Modified TO-15	1.5 "Hg
12AA	SS-A-5 Duplicate	Modified TO-15	1.5 "Hg
15A	SS-A-1 (dup)	Modified TO-15	0.0 "Hg
16A	Lab Blank	Modified TO-15	NA
17A	CCV	Modified TO-15	NA
18A	LCS	Modified TO-15	NA

CERTIFIED BY: Linda A. Truman DATE: 09/15/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15
Arcadis Geraghty & Miller
Workorder# 0609029C

Three 6 Liter Summa Canister (100% Certified) samples were received on September 01, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
Daily CCV	+- 30% Difference	</= 30% Difference with two allowed out up to </=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of sumina canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SS-A-1

Lab ID#: 0609029C-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
cis-1,2-Dichloroethene	8.7	12	34	49
1,1,1-Trichloroethane	8.7	13	47	69
Trichloroethene	8.7	2700	47	14000

Client Sample ID: SS-A-5

Lab ID#: 0609029C-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	56	20000	220	79000
1,1,1-Trichloroethane	56	9500	310	52000
Trichloroethene	56	8800	300	47000

Client Sample ID: SS-A-5 Duplicate

Lab ID#: 0609029C-12AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	140	18000	560	72000
1,1,1-Trichloroethane	140	8500	770	46000
Trichloroethene	140	7900	760	42000

Client Sample ID: SS-A-1 (dup)

Lab ID#: 0609029C-15A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
cis-1,2-Dichloroethene	6.7	7.3	26	29
1,1,1-Trichloroethane	6.7	10	36	54
Trichloroethene	6.7	1700	36	9300

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Client Sample ID: SS-A-1

Lab ID#: 0609029C-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**f091118**	**Date of Collection:**	**8/30/06**
Dil. Factor:	**17.4**	**Date of Analysis:**	**9/11/06 11:51 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	8.7	Not Detected	22	Not Detected
1,1-Dichloroethene	8.7	Not Detected	34	Not Detected
1,1-Dichloroethane	8.7	Not Detected	35	Not Detected
cis-1,2-Dichloroethene	8.7	12	34	49
1,1,1-Trichloroethane	8.7	13	47	69
Trichloroethene	8.7	2700	47	14000

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: SS-A-5

Lab ID#: 0609029C-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**f091120**	**Date of Collection:**	**8/29/06**
Dil. Factor:	**1.13**	**Date of Analysis:**	**9/12/06 01:42 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	56	Not Detected	140	Not Detected
1,1-Dichloroethene	56	20000	220	79000
1,1-Dichloroethane	56	Not Detected	230	Not Detected
cis-1,2-Dichloroethene	56	Not Detected	220	Not Detected
1,1,1-Trichloroethane	56	9500	310	52000
Trichloroethene	56	8800	300	47000

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130
1,2-Dichloroethane-d4	116	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: SS-A-5 Duplicate

Lab ID#: 0609029C-12AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**f091119**	**Date of Collection: 8/29/06**	
Dil. Factor:	**282**	**Date of Analysis: 9/12/06 12:39 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	140	Not Detected	360	Not Detected
1,1-Dichloroethene	140	18000	560	72000
1,1-Dichloroethane	140	Not Detected	570	Not Detected
cis-1,2-Dichloroethene	140	Not Detected	560	Not Detected
1,1,1-Trichloroethane	140	8500	770	46000
Trichloroethene	140	7900	760	42000

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	95	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SS-A-1 (dup)

Lab ID#: 0609029C-15A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**f091121**	**Date of Collection:**	**8/30/06**
Dil. Factor:	**13.4**	**Date of Analysis:**	**9/12/06 02:29 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	6.7	Not Detected	17	Not Detected
1,1-Dichloroethene	6.7	Not Detected	26	Not Detected
1,1-Dichloroethane	6.7	Not Detected	27	Not Detected
cis-1,2-Dichloroethene	6.7	7.3	26	29
1,1,1-Trichloroethane	6.7	10	36	54
Trichloroethene	6.7	1700	36	9300

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	118	70-130
4-Bromofluorobenzene	98	70-130

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0609029C-16A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**f091108**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/11/06 02:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCS

Lab ID#: 0609029C-18A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**f091103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/11/06 11:04 AM**	

Compound	%Recovery
Vinyl Chloride	76
1,1-Dichloroethene	84
1,1-Dichloroethane	85
cis-1,2-Dichloroethene	90
1,1,1-Trichloroethane	97
Trichloroethene	97

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	97	70-130

Appendix D

Data Validation Reports

Data Validation Checklist for 0602635

ARCADIS, Inc.
6 Terry Drive, Suite 300
Newton, PA
18940
Tel: 267-685-1800
Fax: 267-685-1801

Project Name:	Bally ,PA
Project Number:	NP000597.00006.0006
Sample Date(s):	2/28/06
Sample Team:	Philadelphia Field Team
Matrix/Number of Samples: Air/ 11 samples	Air / 10 Duplicates/ 1 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Air Toxics 180 Blue Ravine Road Suite B Folsom, CA 95630 Phone: (916) 985-1000
Analyses:	Volatile organic compounds (VOCs) by USEPA method TO-15

Laboratory Report Job Number: 0602635 Dated: 3/9/06

1. ANALYTICAL DATA PACKAGE DOCUMENTATION

1.1 GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		x		x	
2. Parameters analyzed		x		x	
3. Method of analysis		x		x	
4. Sample collection date		x		x	
5. Laboratory sample received date		x		x	
6. Sample preparation/extraction date					x
7. Sample analysis date		x		x	
8. Copy of chain-of-custody form signed by lab sample custodian		x		x	
9. Narrative summary of QA or sample problems provided		x		x	

QA - quality assurance

Comments:

Field data, field notes, and sampling logs were not reviewed. An Arcadis Level IV validation was conducted on the data. Analytical data were validated in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment.

1.2 ORGANIC ANALYSES (VOCs)

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		x		x	
2. Blanks					
A. Method blank		x		x	
B. Field blanks					x
C. Trip blanks					x
3. GC/MS Instrument performance check		x		x	
4. Initial calibration RRF's and %RSD's		x		x	
5. Continuing calibration RRF's and %D's		x		x	
6. Matrix spike (MS) %R					x
7. Matrix spike duplicate (MSD) %R					x
8. MS/MSD precision (RPD)					x
9. Laboratory control sample (LCS) %R & RPD		x		x	
10. Laboratory duplicate precision					x
11. Surrogate spike recoveries		x		x	
12. Internal standard retention times and areas		x		x	
13. Compound identification and quantitation		x		x	
14. Field duplicate comparison		x		x	

VOCs - volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:

14. Sample BAL-IAQ-03B-022406 was replicated in the field and labeled BAL-IAQ-3B-DUP-022406. The replicated data was acceptable.

2. SUMMARY AND DATA QUALIFIER CODES

Job Number:

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOC			
None			

VALIDATION PERFORMED BY:

VALIDATION REVIEWED BY SIGNATURE:

Data Validation Checklist for 0602660A

Project Name:	Bally ,PA
Project Number:	NP000597.00006.0006
Sample Date(s):	2/28/06
Sample Team:	Philadelphia Field Team
Matrix/Number of Samples: Air/ 2 samples	Air / 2 Duplicates/ 0 Trip Blanks / 0 Field Blanks/0
Analyzing Laboratory:	Air Toxics 180 Blue Ravine Road Suite B Folsom, CA 95630 Phone: (916) 985-1000
Analyses:	Volatile organic compounds (VOCs) by USEPA method TO-15

Laboratory Report Job Number: 0602660A Dated: 3/17/06

1. ANALYTICAL DATA PACKAGE DOCUMENTATION

1.1 GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		x		x	
2. Parameters analyzed		x		x	
3. Method of analysis		x		x	
4. Sample collection date		x		x	
5. Laboratory sample received date		x		x	
6. Sample preparation/extraction date					x
7. Sample analysis date		x		x	
8. Copy of chain-of-custody form signed by lab sample custodian		x		x	
9. Narrative summary of QA or sample problems provided		x		x	

QA - quality assurance

Comments:

Field data, field notes, and sampling logs were not reviewed. An Arcadis Level IV validation was conducted on the data. Analytical data were validated in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment.

1.2 ORGANIC ANALYSES (VOCs)

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		x		x	
2. Blanks					
A. Method blank		x		x	
B. Field blanks					x
C. Trip blanks					x
3. GC/MS Instrument performance check		x		x	
4. Initial calibration RRF's and %RSD's		x		x	
5. Continuing calibration RRF's and %D's		x		x	
6. Matrix spike (MS) %R					x
7. Matrix spike duplicate (MSD) %R					x
8. MS/MSD precision (RPD)					x
9. Laboratory control sample (LCS) %R & RPD		x		x	
10. Laboratory duplicate precision					x
11. Surrogate spike recoveries		x		x	
12. Internal standard retention times and areas		x		x	
13. Compound identification and quantitation		x		x	
14. Field duplicate comparison					x

VOCs - volatile organic compounds
%D - percent difference
RRF - relative response factor
%R - percent recovery
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable without exception.

2. SUMMARY AND DATA QUALIFIER CODES

Job Number:

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOC			
None			

VALIDATION PERFORMED BY:

VALIDATION REVIEWED BY SIGNATURE:

Data Validation Checklist for 0602660B

Project Name:	Bally ,PA
Project Number:	NP000597.00006.0006
Sample Date(s):	2/28/06
Sample Team:	Philadelphia Field Team
Matrix/Number of Samples: Air/ 1 samples	Air / 1 Duplicates/ 0 Trip Blanks / 0 Field Blanks/0
Analyzing Laboratory:	Air Toxics 180 Blue Ravine Road Suite B Folsom, CA 95630 Phone: (916) 985-1000
Analyses:	Volatile organic compounds (VOCs) by USEPA method TO-15

Laboratory Report Job Number: 0602660B Dated: 3/13/06

1. ANALYTICAL DATA PACKAGE DOCUMENTATION

1.1 GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		x		x	
2. Parameters analyzed		x		x	
3. Method of analysis		x		x	
4. Sample collection date		x		x	
5. Laboratory sample received date		x		x	
6. Sample preparation/extraction date					x
7. Sample analysis date		x		x	
8. Copy of chain-of-custody form signed by lab sample custodian		x		x	
9. Narrative summary of QA or sample problems provided		x		x	

QA - quality assurance

Comments:

Field data, field notes, and sampling logs were not reviewed. An Arcadis Level IV validation was conducted on the data. Analytical data were validated in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment.

1.2 ORGANIC ANALYSES (VOCs)

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		x		x	
2. Blanks					
A. Method blank		x		x	
B. Field blanks					x
C. Trip blanks					x
3. GC/MS Instrument performance check		x		x	
4. Initial calibration RRF's and %RSD's		x		x	
5. Continuing calibration RRF's and %D's		x		x	
6. Matrix spike (MS) %R					x
7. Matrix spike duplicate (MSD) %R					x
8. MS/MSD precision (RPD)					x
9. Laboratory control sample (LCS) %R & RPD		x		x	
10. Laboratory duplicate precision					x
11. Surrogate spike recoveries		x		x	
12. Internal standard retention times and areas		x		x	
13. Compound identification and quantitation		x		x	
14. Field duplicate comparison					x

VOCs - volatile organic compounds
%D - percent difference
RRF - relative response factor
%R - percent recovery
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable without exception.

2. SUMMARY AND DATA QUALIFIER CODES

Job Number:

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOC			
None			

VALIDATION PERFORMED BY:

VALIDATION REVIEWED BY SIGNATURE:

Data Validation Checklist for 0603026

ARCADIS, Inc.
6 Terry Drive, Suite 300
Newton, PA
18940
Tel: 267-685-1800
Fax: 267-685-1801

Project Name:	Bally ,PA
Project Number:	NP000597.00006.0006
Sample Date(s):	2/28/06
Sample Team:	Philadelphia Field Team
Matrix/Number of Samples: Air/ 4 samples	Air / 3 Duplicates/ 1 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Air Toxics 180 Blue Ravine Road Suite B Folsom, CA 95630 Phone: (916) 985-1000
Analyses:	Volatile organic compounds (VOCs) by USEPA method TO-15

Laboratory Report Job Number: 0603026 Dated: 3/14/06

1. ANALYTICAL DATA PACKAGE DOCUMENTATION

1.1 GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		x		x	
2. Parameters analyzed		x		x	
3. Method of analysis		x		x	
4. Sample collection date		x		x	
5. Laboratory sample received date		x		x	
6. Sample preparation/extraction date					x
7. Sample analysis date		x		x	
8. Copy of chain-of-custody form signed by lab sample custodian		x		x	
9. Narrative summary of QA or sample problems provided		x		x	

QA - quality assurance

Comments:

Field data, field notes, and sampling logs were not reviewed. An Arcadis Level IV validation was conducted on the data. Analytical data were validated in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment.

1.2 ORGANIC ANALYSES (VOCs)

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		x		x	
2. Blanks					
A. Method blank		x		x	
B. Field blanks					x
C. Trip blanks					x
3. GC/MS Instrument performance check		x		x	
4. Initial calibration RRF's and %RSD's		x		x	
5. Continuing calibration RRF's and %D's		x		x	
6. Matrix spike (MS) %R					x
7. Matrix spike duplicate (MSD) %R					x
8. MS/MSD precision (RPD)					x
9. Laboratory control sample (LCS) %R & RPD		x		x	
10. Laboratory duplicate precision					x
11. Surrogate spike recoveries		x		x	
12. Internal standard retention times and areas		x		x	
13. Compound identification and quantitation		x		x	
14. Field duplicate comparison		x		x	

VOCs - volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:

14. Sample BAL-SV-05-022806 was replicated in the field and labeled BAL-SV-50-022806. The replicated data was acceptable.

2. SUMMARY AND DATA QUALIFIER CODES

Job Number:

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOC			
None			

VALIDATION PERFORMED BY:

VALIDATION REVIEWED BY SIGNATURE:

Data Validation Checklist for 0603058A

ARCADIS, Inc.
6 Terry Drive, Suite 300
Newton, PA
18940
Tel: 267-685-1800
Fax: 267-685-1801

Project Name:	Bally ,PA
Project Number:	NP000597.00006.0006
Sample Date(s):	3/1/06
Sample Team:	Philadelphia Field Team
Matrix/Number of Samples: Air/ 1 samples	Air / 1 Duplicates/ 0 Trip Blanks / 0 Field Blanks/0
Analyzing Laboratory:	Air Toxics 180 Blue Ravine Road Suite B Folsom, CA 95630 Phone: (916) 985-1000
Analyses:	Volatile organic compounds (VOCs) by USEPA method TO-15

Laboratory Report Job Number: 0603058A Dated: 3/15/06

1. ANALYTICAL DATA PACKAGE DOCUMENTATION

1.1 GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		x		x	
2. Parameters analyzed		x		x	
3. Method of analysis		x		x	
4. Sample collection date		x		x	
5. Laboratory sample received date		x		x	
6. Sample preparation/extraction date					x
7. Sample analysis date		x		x	
8. Copy of chain-of-custody form signed by lab sample custodian		x		x	
9. Narrative summary of QA or sample problems provided		x		x	

QA - quality assurance

Comments:

Field data, field notes, and sampling logs were not reviewed. An Arcadis Level IV validation was conducted on the data. Analytical data were validated in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment.

1.2 ORGANIC ANALYSES (VOCs)

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		x		x	
2. Blanks					
A. Method blank		x		x	
B. Field blanks					x
C. Trip blanks					x
3. GC/MS Instrument performance check		x		x	
4. Initial calibration RRF's and %RSD's		x		x	
5. Continuing calibration RRF's and %D's		x		x	
6. Matrix spike (MS) %R					x
7. Matrix spike duplicate (MSD) %R					x
8. MS/MSD precision (RPD)					x
9. Laboratory control sample (LCS) %R & RPD		x		x	
10. Laboratory duplicate precision					x
11. Surrogate spike recoveries		x		x	
12. Internal standard retention times and areas		x		x	
13. Compound identification and quantitation		x		x	
14. Field duplicate comparison					x

VOCs - volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable without exception.

2. SUMMARY AND DATA QUALIFIER CODES

Job Number:

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOC			
None			

VALIDATION PERFORMED BY:

VALIDATION REVIEWED BY SIGNATURE:

Data Validation Checklist for 0603058B

ARCADIS, Inc.
6 Terry Drive, Suite 300
Newton, PA
18940
Tel: 267-685-1800
Fax: 267-685-1801

Project Name:	Bally ,PA
Project Number:	NP000597.00006.0006
Sample Date(s):	3/1/06
Sample Team:	Philadelphia Field Team
Matrix/Number of Samples: Air/ 1 samples	Air / 1 Duplicates/ 0 Trip Blanks / 0 Field Blanks/0
Analyzing Laboratory:	Air Toxics 180 Blue Ravine Road Suite B Folsom, CA 95630 Phone: (916) 985-1000
Analyses:	Volatile organic compounds (VOCs) by USEPA method TO-15

Laboratory Report Job Number: 0603058B Dated: 3/15/06

1. ANALYTICAL DATA PACKAGE DOCUMENTATION

1.1 GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		x		x	
2. Parameters analyzed		x		x	
3. Method of analysis		x		x	
4. Sample collection date		x		x	
5. Laboratory sample received date		x		x	
6. Sample preparation/extraction date					x
7. Sample analysis date		x		x	
8. Copy of chain-of-custody form signed by lab sample custodian		x		x	
9. Narrative summary of QA or sample problems provided		x		x	

QA - quality assurance

Comments:

Field data, field notes, and sampling logs were not reviewed. An Arcadis Level IV validation was conducted on the data. Analytical data were validated in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment.

1.2 ORGANIC ANALYSES (VOCs)

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		x		x	
2. Blanks					
A. Method blank		x		x	
B. Field blanks					x
C. Trip blanks					x
3. GC/MS Instrument performance check		x		x	
4. Initial calibration RRF's and %RSD's		x		x	
5. Continuing calibration RRF's and %D's		x		x	
6. Matrix spike (MS) %R					x
7. Matrix spike duplicate (MSD) %R					x
8. MS/MSD precision (RPD)					x
9. Laboratory control sample (LCS) %R & RPD		x		x	
10. Laboratory duplicate precision					x
11. Surrogate spike recoveries		x		x	
12. Internal standard retention times and areas		x		x	
13. Compound identification and quantitation		x		x	
14. Field duplicate comparison					x

VOCs - volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable without exception.

2. SUMMARY AND DATA QUALIFIER CODES

Job Number:

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOC			
None			

VALIDATION PERFORMED BY:

VALIDATION REVIEWED BY SIGNATURE:

DATA VALIDATION CHECKLIST

ARCADIS, Inc.
6 Terry Drive, Suite 300
Newton, PA
18940
Tel: 267-685-1800
Fax: 267-685-1801

Project Name:	Bally ,PA
Project Number:	NP000597.00006.0006
Sample Date(s):	8/28/06 through 8/30/06
Sample Team:	Abigail Faulkner
Matrix/Number of Samples: Air/ 4 samples	Air / 4 Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Air Toxics 180 Blue Ravine Road Suite B Folsom, CA 95630 Phone: (916) 985-1000
Analyses:	Volatile organic compounds (VOCs) by USEPA method TO-15 SIM

Laboratory Report Job Number: 0609029B Dated: 9/15/06

ANALYTICAL DATA PACKAGE DOCUMENTATION
GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		x		x	
2. Parameters analyzed		x		x	
3. Method of analysis		x		x	
4. Sample collection date		x		x	
5. Laboratory sample received date		x		x	
6. Sample preparation/extraction date					x
7. Sample analysis date		x		x	
8. Copy of chain-of-custody form signed by lab sample custodian		x		x	
9. Narrative summary of QA or sample problems provided		x		x	

QA - quality assurance

Comments:

Field data, field notes, and sampling logs were not reviewed. An Arcadis Level IV validation was conducted on the data. Analytical data were validated in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment.

9. Sample IA-A-1 (dup) was cancelled due to sample arrival at lab at ambient pressure.

ORGANIC ANALYSES
VOCs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		x		x	
2. Blanks					
A. Method blank		x		x	
B. Field blanks					x
C. Trip blanks					x
3. GC/MS Instrument performance check		x		x	
4. Initial calibration RRF's and %RSD's		x		x	
5. Continuing calibration RRF's and %D's		x		x	
6. Matrix spike (MS) %R					x
7. Matrix spike duplicate (MSD) %R					x
8. MS/MSD precision (RPD)					x
9. Laboratory control sample (LCS) %R & RPD		x		x	
10. Laboratory duplicate precision					x
11. Surrogate spike recoveries		x	x		
12. Internal standard retention times and areas		x		x	
13. Compound identification and quantitation		x		x	
14. Field duplicate comparison					x

VOCs - volatile organic compounds
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

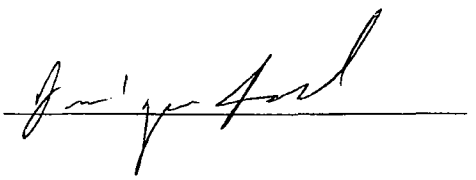
Comments:

11. The surrogate recoveries for 1,2-dichloroethane-d4 was outside of control limits in samples SS-A-2 and SS-A-6. However, all other blanks and spike recovery were within control limits. Therefore no qualification is required.

DATA VALIDATION CHECKLIST
SUMMARY AND DATA QUALIFIER CODES **Job Number:**

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOC			
None			

VALIDATION PERFORMED BY:



DATA VALIDATION CHECKLIST

ARCADIS, Inc.
6 Terry Drive, Suite 300
Newton, PA
18940
Tel: 267-685-1800
Fax: 267-685-1801

Project Name:	Bally ,PA
Project Number:	NP000597.00006.0006
Sample Date(s):	8/28/06 through 8/30/06
Sample Team:	Abigail Faulkner
Matrix/Number of Samples: Air/3 samples	Air / 3 Duplicates/ 1 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Air Toxics 180 Blue Ravine Road Suite B Folsom, CA 95630 Phone: (916) 985-1000
Analyses:	Volatile organic compounds (VOCs) by USEPA method TO-15 SIM

Laboratory Report Job Number: 0609029C Dated: 9/15/06

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		x		x	
2. Parameters analyzed		x		x	
3. Method of analysis		x		x	
4. Sample collection date		x		x	
5. Laboratory sample received date		x		x	
6. Sample preparation/extraction date					x
7. Sample analysis date		x		x	
8. Copy of chain-of-custody form signed by lab sample custodian		x		x	
9. Narrative summary of QA or sample problems provided		x		x	

QA - quality assurance

Comments:

Field data, field notes, and sampling logs were not reviewed. An Arcadis Level IV validation was conducted on the data. Analytical data were validated in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment.

9. Sample IA-A-1 (dup) was cancelled due to sample arrival at lab at ambient pressure.

ORGANIC ANALYSES
VOCs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		x		x	
2. Blanks					
A. Method blank		x		x	
B. Field blanks					x
C. Trip blanks					x
3. GC/MS Instrument performance check		x		x	
4. Initial calibration RRF's and %RSD's		x		x	
5. Continuing calibration RRF's and %D's		x		x	
6. Matrix spike (MS) %R					x
7. Matrix spike duplicate (MSD) %R					x
8. MS/MSD precision (RPD)					x
9. Laboratory control sample (LCS) %R & RPD		x		x	
10. Laboratory duplicate precision					x
11. Surrogate spike recoveries		x		x	
12. Internal standard retention times and areas		x		x	
13. Compound identification and quantitation		x		x	
14. Field duplicate comparison		x		x	

VOCs - volatile organic compounds
%D - percent difference
RRF - relative response factor
%R - percent recovery
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:

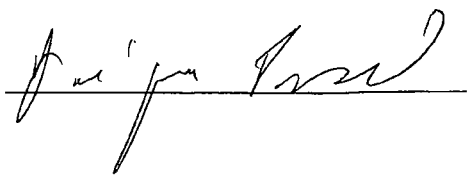
14. Sample SS-A-1 was replicated in the field and labeled SS-A-1 (dup). The replicated data was acceptable.

AR100993

DATA VALIDATION CHECKLIST
SUMMARY AND DATA QUALIFIER CODES **Job Number:**

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOC			
None			

VALIDATION PERFORMED BY:



DATA VALIDATION CHECKLIST

ARCADIS, Inc.
6 Terry Drive, Suite 300
Newton, PA
18940
Tel: 267-685-1800
Fax: 267-685-1801

Project Name:	Bally ,PA
Project Number:	NP000597.00006.0006
Sample Date(s):	10/12/06
Sample Team:	Chris Sharpe
Matrix/Number of Samples:	Air / 2
Analyzing Laboratory:	Air Toxics 180 Blue Ravine Road Suite B Folsom, CA 95630 Phone: (916) 985-1000
Analyses:	Volatile organic compounds (VOCs) by USEPA method TO-15 SIM

Laboratory Report Job Number: 0610306 Dated: 10/24/06

ANALYTICAL DATA PACKAGE DOCUMENTATION
GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		x		x	
2. Parameters analyzed		x		x	
3. Method of analysis		x		x	
4. Sample collection date		x		x	
5. Laboratory sample received date		x		x	
6. Sample preparation/extraction date					x
7. Sample analysis date		x		x	
8. Copy of chain-of-custody form signed by lab sample custodian		x		x	
9. Narrative summary of QA or sample problems provided		x		x	

QA - quality assurance

Comments:

Field data, field notes, and sampling logs were not reviewed. An Arcadis Level IV validation was conducted on the data. Analytical data were validated in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment.

ORGANIC ANALYSES
VOCs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		x		x	
2. Blanks					
A. Method blank		x		x	
B. Field blanks					x
C. Trip blanks					x
3. GC/MS Instrument performance check		x		x	
4. Initial calibration RRF's and %RSD's		x		x	
5. Continuing calibration RRF's and %D's		x		x	
6. Matrix spike (MS) %R					x
7. Matrix spike duplicate (MSD) %R					x
8. MS/MSD precision (RPD)					x
9. Laboratory control sample (LCS) %R & RPD		x		x	
10. Laboratory duplicate precision					x
11. Surrogate spike recoveries		x		x	
12. Internal standard retention times and areas		x		x	
13. Compound identification and quantitation		x		x	
14. Field duplicate comparison					x

VOCs - volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:

Performance was acceptable without exception.

1) Information on Canister did not match sample information on COC. Information on canister was identified by ARCADIS as the correct data.

DATA VALIDATION CHECKLIST
SUMMARY AND DATA QUALIFIER CODES **Job Number:**

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOC			
None			

VALIDATION PERFORMED BY:

DATA VALIDATION CHECKLIST

ARCADIS, Inc.
6 Terry Drive, Suite 300
Newton, PA
18940
Tel: 267-685-1800
Fax: 267-685-1801

Project Name:	Bally ,PA
Project Number:	NP000597.00006.0006
Sample Date(s):	8/28/06 through 8/30/06
Sample Team:	Abigail Faulkner
Matrix/Number of Samples: Air/ 8 samples	Air / 8 Duplicates/ 1 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Air Toxics 180 Blue Ravine Road Suite B Folsom, CA 95630 Phone: (916) 985-1000
Analyses:	Volatile organic compounds (VOCs) by USEPA method TO-15 SIM

Laboratory Report Job Number: 0609029A Dated: 9/21/06

ANALYTICAL DATA PACKAGE DOCUMENTATION
GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		x		x	
2. Parameters analyzed		x		x	
3. Method of analysis		x		x	
4. Sample collection date		x		x	
5. Laboratory sample received date		x		x	
6. Sample preparation/extraction date					x
7. Sample analysis date		x		x	
8. Copy of chain-of-custody form signed by lab sample custodian		x		x	
9. Narrative summary of QA or sample problems provided		x		x	

QA - quality assurance

Comments:

Field data, field notes, and sampling logs were not reviewed. An Arcadis Level IV validation was conducted on the data. Analytical data were validated in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), the "USEPA CLP National Functional Guidelines for Inorganic Data Review", July 2002, and ARCADIS professional judgment.

9. Sample IA-A-1 (dup) was cancelled due to sample arrival at lab at ambient pressure.

ORGANIC ANALYSES
VOCs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		x		x	
2. Blanks					
A. Method blank		x		x	
B. Field blanks					x
C. Trip blanks					x
3. GC/MS Instrument performance check		x		x	
4. Initial calibration RRF's and %RSD's		x		x	
5. Continuing calibration RRF's and %D's		x		x	
6. Matrix spike (MS) %R					x
7. Matrix spike duplicate (MSD) %R					x
8. MS/MSD precision (RPD)					x
9. Laboratory control sample (LCS) %R & RPD		x		x	
10. Laboratory duplicate precision					x
11. Surrogate spike recoveries		x		x	
12. Internal standard retention times and areas		x		x	
13. Compound identification and quantitation		x		x	
14. Field duplicate comparison					x

VOCs - volatile organic compounds
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:

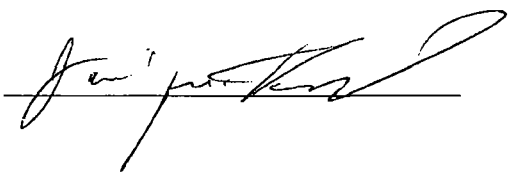
Performance was acceptable without exception.

AR100999

DATA VALIDATION CHECKLIST
SUMMARY AND DATA QUALIFIER CODES **Job Number:**

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOC			
None			

VALIDATION PERFORMED BY:



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